

Documents for the Record  
Energy and Commerce Committee  
Subcommittee on Oversight and Investigations  
01.17.24

1. Burgess
  - CNN article, 3 migrants near Eagle Pass
  - Center for Immigration Studies article
2. Tonko – Charts \_ Drug Seizures at the Border
3. Tonko – Fentanyl is Smuggled for U.S. Citizens by U.S. Citizens
4. Tonko – Socioeconomic risk factors article
5. Castor – LaBelle Statement for the Record
6. Crenshaw – Letter to Biden re Final Menthol Ban letter
7. Curtis – Washington Post Article

# What we know about the drownings of 3 Mexican migrants near Eagle Pass, Texas

By [Rosa Flores](#), [Holly Yan](#), [Sara Weisfeldt](#) and [Devan Cole](#), CNN

🕒 8 minute read · Updated 2:52 PM EST, Tue January 16, 2024



Video Ad Feedback

Smerconish: Is Abbott's border war on DOJ a political ploy?

08:24 - Source: [CNN](#)

**(CNN)** — The drowning deaths of a woman and two children from Mexico near the US-Mexico border have magnified the rift between Texas and federal officials over who has jurisdiction in that part of the Rio Grande area and how to tackle the migrant crisis.

The tragedy happened days after state authorities blocked the US Border Patrol from accessing 2.5 miles of the US-Mexico border near Eagle Pass, Texas – which was recently the epicenter of the migrant crisis. The area includes Shelby Park, a city park on the Rio Grande that Texas authorities blocked off with fencing, gates and razor wire – effectively denying access to federal Border Patrol agents.

But whether a lack of access may have played a role in the deaths is in dispute.

Those who died were Victerma de la Sancha Cerros, 33; Yorlei Rubi, 10; and Jonathan Agustín Briones,



Obtained by CNN

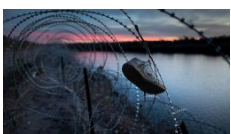
Yorlei Rubi (left), 10, and Jonathan Agustín Briones de la Sancha, 8, are shown in a 2019 photo. Both children drowned Friday night in the Rio Grande.

And new details about what happened to them have emerged from a [US Supreme Court filing](#) – part of the Biden administration’s [ongoing legal battle](#) against Texas to regain access to the border area.

Here’s what we know and what’s still unclear:

## What federal officials say happened

Around 9 p.m. Friday, “Mexican officials advised Border Patrol of two migrants in distress on the US side of the river in the area near the Shelby Park boat ramp,” the Biden administration wrote in Monday’s [Supreme Court filing](#). “Mexican officials also informed Border Patrol that three migrants – one woman and two children – had drowned at approximately 8:00 p.m. in the same area.”



### RELATED ARTICLE

Opinion: Abbott’s war on migration has led to another tragedy in Texas

The drownings – as well as the rescue of two other migrants on the US side of the Rio Grande by Mexican authorities – “underscore that Texas is firm in its continued efforts to exercise complete control

emergency circumstances,” the administration wrote.

“It is impossible to say what might have happened if Border Patrol had had its former access to the area – including through its surveillance trucks that assisted in monitoring the area,” US Solicitor General Elizabeth Prelogar wrote in the [filing to the Supreme Court](#).

“At the very least, however, Border Patrol would have had the opportunity to take any available steps to fulfill its responsibilities and assist its counterparts in the Mexican government with undertaking the rescue mission. Texas made that impossible.”



**RELATED ARTICLE**

Exclusive: Biden administration demands Texas stop blocking Border Patrol access

---

Prelogar urged the Supreme Court to intervene, and the high court could act at any time.

CNN has reached out to Gov. Greg Abbott’s office, the Texas Military Department and the Texas Department of Public Safety for responses to Monday’s Supreme Court filing.

Prior to the filing, Democratic US Rep. Henry Cuellar posted on [social media](#) that six migrants were reportedly in distress Friday night.

A Border Patrol agent went to an entrance gate at Shelby Park and told Texas National Guard members about a distress call, according to the court filing.

“Speaking through the closed gate, the guardsmen refused to let the (Border Patrol agent) enter because they had been ordered not to allow Border Patrol access to the park,” the filing says.

The Border Patrol agent also spoke with the guardsmen’s supervisor over the phone but was again denied access, according to the filing. The supervisor conveyed that Border Patrol is not permitted to enter the area “even in emergency situations” and guardsmen would be sent to investigate, the filing says.



**RELATED ARTICLE**

Texas tells Supreme Court it’s working to give Border Patrol access to boat ramp on Rio Grande

---

The next day, Mexican officials confirmed to Border Patrol that they had recovered three drowned bodies and rescued two distressed migrants and another two migrants who had attempted to cross in the night, according to the filing.

The US Department of Homeland Security confirmed the deaths and said Border Patrol agents were stopped from assisting at the border.

“In responding to a distress call from the Mexican government, Border Patrol agents were physically

---

statement. “The Texas governor’s policies are cruel, dangerous, and inhumane, and Texas’s blatant disregard for federal authority over immigration poses grave risks.”



“Texas officials blocked US Border Patrol agents from doing their job and allowed two children to drown in the Rio Grande,” Democratic US Rep. Joaquin Castro of Texas said in a statement Saturday.

## What Texas authorities say happened

But the Texas Military Department said by the time Border Patrol agents requested access to the site Friday night, “the drownings had occurred, Mexican authorities were recovering the bodies, and Border Patrol expressed these facts to the TMD personnel on site.”



### RELATED ARTICLE

Chicago scrambles to shelter migrants in dangerous cold as Texas’ governor refuses to stop drop-offs

The Texas Military Department Saturday said it was contacted by Border Patrol at 9 p.m. Friday about a “migrant distress situation” and searched the river with lights and night vision goggles, but “no migrants were observed.”

About 45 minutes later, Mexican authorities were seen responding to an incident on the Mexican side of the riverbank, said the Texas Military Department, which then “reported their observations back to Border Patrol, and they confirmed that the Mexican authorities required no additional assistance,” according to its statement.

“At no time did TMD security personnel along the river observe any distressed migrants, nor did TMD turn back any illegal immigrants from the US during this period,” the Texas Military Department said. “Also, at no point was TMD made aware of any bodies in the area of Shelby Park, nor was TMD made aware of any bodies being discovered on the US side of the border regarding this situation.”





Brandon Bell/Getty Images

National Guard soldiers stand guard Friday on the banks of the Rio Grande at Shelby Park in Eagle Pass, Texas.

---

## Mexico's foreign ministry speaks out

Mexico's Ministry of Foreign Affairs conveyed its condolences over the deaths of the migrants in a statement released Sunday by the Mexican Consulate in Eagle Pass.

Mexico's Beta Groups – part of the National Institute of Migration of Mexico dedicated to protecting the human rights of migrants and specializing in rescues and first aid - and the Mexican National Guard recovered the bodies from Mexico, the statement said. Two other Mexicans were rescued.

## Apprehensions increase near Eagle Pass

After a significant decrease in migrant encounters earlier this month, migrant apprehensions in the Del Rio Border Patrol Sector have increased since last week, according to a law enforcement source familiar with the operations. Eagle Pass is in the Del Rio Border Patrol Sector.



### RELATED ARTICLE

More than 11,000 migrants wait in northern Mexico amid border surge

Smugglers are pushing large groups of migrants to cross the Rio Grande through residential areas and places west of Eagle Pass outside the river area taken over by Texas, the source said. This geographic shift in the flow of migrants creates a new challenge for federal border authorities because there is no infrastructure in these areas, especially as temperatures dip in the overnight hours, the source said.

About 1,000 migrant apprehensions took place Sunday in the Del Rio Sector, compared to between 500 and 600 daily earlier in the week, according to the source.

The number of migrant apprehensions on Friday and Saturday were 659 and 624, respectively, the source said.

## The rift between Texas and the feds

Tensions have been high between the state and federal officials as the Biden administration has

---

border and a new law that makes entering Texas illegally a state crime.

The dispute before the Supreme Court concerns Border Patrol agents' practice of removing razor wire put in place by Texas along part of the border. The state sued the federal government over the practice, and a lower court ordered the agents to stop removing the wire while legal challenges play out.



**RELATED ARTICLE**

Biden administration sues Texas over state's controversial immigration law

---

The Biden administration appealed this month and is asking the high court to step in on an emergency basis to put a hold on that order.

"Texas's recent actions vividly illustrate the untenable legal and practical implications of that injunction, which rests on the Fifth Circuit's holding that Texas may use state-erected barriers and state tort law to prevent federal officials from performing their federally assigned functions at the border," the US solicitor general wrote to the Supreme Court.

On Friday, the Biden administration complained to the US Supreme Court about the state blocking Border Patrol from the Shelby Park area and asked the high court to quickly intervene. On Saturday, Texas told the high court it was "working promptly" to ensure Border Patrol has access to a boat ramp at Shelby Park.

Following the drowning deaths, Texas on Saturday started allowing Border Patrol limited access to the Shelby Park boat ramp area and another port of entry gate, according to the filing. A Border Patrol agent was also able to enter the restricted area Monday and drive onto an access road, the document notes.



**RELATED ARTICLE**

GOP Gov. Abbott signs border bill that makes entering Texas illegally a state crime

---

US Customs and Border Protection was "saddened by tragic migrant drownings in Eagle Pass," an agency spokesperson said.

"We remain gravely concerned by actions that prevent the US Border Patrol from performing their essential missions of arresting individuals who enter the United States unlawfully and providing humanitarian response to individuals in need," the spokesperson said.

Abbott's office and the Texas Department of Public Safety both referred CNN to the Texas National Guard for further information. Abbott has defended the state's action to seize control of land at the US-Mexico border.

"Texas has the legal authority to control ingress and egress into any geographic location in the state of

---

operational control of it,” Abbott said at a news briefing Friday before the drownings.


On Sunday, the White House called the recent migrant deaths “tragic” and characterized Abbott’s directives on the border as “political stunts,” according to Angelo Fernández Hernández, White House assistant press secretary.

“While we continue to gather facts about the circumstances of these tragic deaths, one thing is clear,” Fernández Hernández told CNN in a statement. “Gov. Abbott’s political stunts are cruel, inhumane, and dangerous. US Border Patrol must have access to the border to enforce our laws.”

*This story has been updated with additional information.*

*CNN’s Carroll Alvarado, Sara Weisfeldt, Ashley Killough, Karol Suarez and Jennifer Deaton contributed to this report.*

Recommended for you

Recommended by  Outbrain







Sponsored

**If You Need To Kill Time On Your Computer, This Vintage Game Is A Must-Have.**

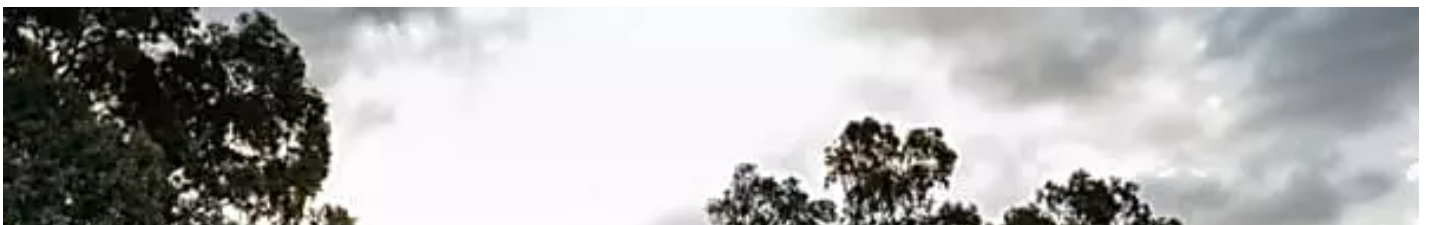
Forge of Empires



Sponsored

**Blackouts? Fear no more. EcoFlow DELTA Pro Ultra is the most powerful whole-home backup solution.**

EcoFlow





Sponsored

## New Retirement Villages Near Washington (Take A Look At The Prices)

Sponsored links



TMZ: Chiefs' Travis Kelce, Taylor Swift Have 'Absolutely No Engagement in the Works'



Teen who lost shirt due to hole in plane moved to sit with her. Hear what happened next

J,

**brio**direct  
powered by Webster Bank, N.A.  
**5.35** % APY  
\$5000 min | Member FDIC

**5.50** %  
APY ⓘ

\$10 to Start | Terms Apply



**4.75** %  
APY

\$5000 to open | As of 01/01/2024



- No fees or minimums
- Earn Interest
- Open in about 5 min

Sponsors of [GO Banking Rates](#)

---

#### CONTENT BY COMPARECARDS

Compare these top cash back offers

Experts handpicked these cashback credit cards

Do you qualify for these cash back offers?

Cash in on these cashback credit cards

Watch the money pile up with these cashback cards!

#### Paid Links

---

---

---

---

---

---

Search CNN...



Log In

Live TV

Listen

Watch

Electronics

Fashion

Beauty

Health & Fitness

Home

Reviews

Deals

Gift Ideas

Money

Travel

Outdoors

Pets

FOLLOW CNN UNDERScoreD



US

World

Politics

Markets

Opinion

Health

Entertainment

Tech

Style

Travel

Sports

Watch

Listen

CNN Underscored

Coupons

Weather

About CNN



FOLLOW CNN



[Terms of Use](#) [Privacy Policy](#) [Cookie Settings](#) [Ad Choices](#) [Accessibility & CC](#) [About](#) [Newsletters](#) [Transcripts](#)

© 2024 Cable News Network. A Warner Bros. Discovery Company. All Rights Reserved.

CNN Sans™ & © 2016 Cable News Network.







[Whistleblower](#)  
[Contact](#)

## Recent Sky-High Levels of Illegal Migration Are Dropping Fast — and Here's Why

Hint: Biden and Mexico's Obrador have arranged an out-of-view crackdown that could endure through the U.S. presidential election and serve them both politically

By [Todd Bensman](#) on January 17, 2024

AUSTIN, Texas — Nothing in the American experience has ever compared to the 10,000-14,000 illegal crossings every day the last several months that [afflicted major American cities](#) or those poor federal government souls who must manage the U.S. southern border.

But November's and December's latest "newest" record-smashing crossings, which exacerbated an already [significant political liability](#) to President Biden's November reelection bid, were falling fast by New Year's Day. And they're still dropping.

Daily Border Patrol encounters of illegally crossing foreign nationals in the first weeks of January, in fact, were down by up to 70 percent from the 12,000 and 14,000 per day of recent weeks, to a still managerially catastrophic 4,000 and 5,000, according to government data shared confidentially with me.

What led to those numbers dropping from ionospheric heights the national media had no choice but to cover in a presidential election year? Will it last? Is this one real?

It helps to know that the falling numbers neatly coincide with recent [shuttle diplomacy to Mexico City](#) about the (political) crisis by Biden personally and his Secretary of State Antony Blinken on December 22 and then DHS Secretary Alejandro Mayorkas and Blinken on December 27. The second meeting produced [a joint communique lacking any useful details](#) about the horse-trading, as my colleague [Andrew R. Arthur has still managed to expertly analyze](#).

"I don't believe in coincidences," Arthur told me. "There's a deal. We just don't know what the deal is."

But the hardly reported or analyzed on-the-ground fruits of all this cannot go ignored for much longer because media visuals of the chaos have loomed so very large in Republican political campaigning — as in ongoing negotiations with Republican senators holding up Ukraine war funding and in House negotiations over raising the debt ceiling.

The fact that the camera-loving high numbers at the heart of all this are dropping so precipitously now warrants some discussion.



*Mexican immigration agents try to stop immigrants in Matamoros from illegally crossing the Rio Grande in May 2023. Photo by Todd Bensman.*



# Mexico Is Cracking Down in Old and New Ways to Slow the Flow

In a nutshell summary of Mexico's doings, according to my own content analysis of Mexican media, forces under control of Mexico's central government are rounding up immigrants in the country's north and shipping them by bus and airplane to southern cities like Tapachula in Chiapas State (on the border with Guatemala) and Villahermosa in Tabasco State. They are all expected to go home or stay put alongside those continuing to enter from Guatemala.

They'll be held back to wait for a molasses-slow bureaucracy to approve individual travel papers. Tens of thousands are filling those southern provinces now.

Meanwhile, federal forces are installing new road checks to hem them in, a la the Gaza Strip, and in the northern provinces to catch, return, and deter runners still getting through.

Probably to instill an enforcement vibe, Mexico also appears to be ramping up air deportations from its rapidly filling southern provinces that may send increasing numbers of uncooperative, rebellious, or repeat attempting immigrants caught in this southern bureaucracy back to distant home countries.

The bottle-necking strategy is actually nothing new and easily undone; I've been reporting on it since 2019 (See ["Video Report: How Trump's Policies Ended the Mass Migration Crisis on Mexico's Southern Border – For Now"](#)). But the Biden administration has long let Mexico slide on it so long as Mexico did it in a way that American TV cameras couldn't see (See ["Mexico's Duplicitous 'Ant Operation' Moved Tens of Thousands of the U.S. Border Sight Unseen — and Will Again Through 2022"](#)).

To eliminate another obvious draw, Mexican authorities have emptied and then bulldozed at least one longstanding migrant camp, the sprawling one in Matamoros across the Rio Grande from Brownsville and reportedly dug deep anti-pedestrian trenches to deny further easy access to popular crossings there. Other ad hoc camps also are probably scraped away by now, too, or soon will be if this continues.

Perhaps one of Mexico's most impactful slow-down measures is that, finally, it is doing something about "La Bestia", the system of cargo trains that have super-powered the Biden border crisis for three years running by transporting hundreds of thousands of migrants from deep southern Mexico to its northern border cities.

## The Trains

In January 2023, I returned from a field research trip and [published dispatches](#) establishing that La Bestia was quietly enabling the illegal migration crisis at the U.S. southern border, that Mexico was allowing it to run unfettered, and that Biden, unlike prior presidents like Obama, had never pressured Mexico to stop the use of the trains by migrants.



*Migrants board a freight train near Monterrey, Mexico, in the spring of 2023. Photo by Todd Bensman.*

## Mexico's "Death Train" Contributing to the Biden Border Crisis



"Mexico is feeling no pressure to block this stream of human cargo," I wrote [in a January 19, 2023, report](#) for The Daily Mail about the renewed widespread use of the trains. "There was no public mention of La Bestia before, during, or after President Biden's talks with Mexican President Andrés Manuel López Obrador [AMLO for short] during his recent visit to Mexico City."

Three years too late, the administration apparently has seen the light and shown it to AMLO.

Mexican media reports that Mexico City has ordered its military to blockade railyards like the ones I visited in my reporting in Monterrey, El Torreon, and Piedras Negras across from Eagle Pass, to stop migrating foreigners from boarding. They're [also rousting immigrants already on freight trains](#) that briefly stop or slow down en route to northern Mexican cities.

"Migrants report finding it extremely difficult to reach [northern Mexico], as authorities, including immigration and the National Guard, stop their progress along train tracks," [a January 10 story in the Chihuahua Herald reported](#).

People in popular northern railway destination cities like Juarez, across from El Paso, have noticed the sharp change.

"After the arrival of thousands of migrants aboard cargo trains in Ciudad Juarez during the last quarter of 2023, a train with around five people headed to the border was observed," [wrote El Diario on January 12](#). "The small group traveling on a wagon was photographed by a resident of that town, who at the end of last year witnessed the passage of different trains with hundreds of people towards this border."

[According to Mexican media](#), this is part of a broader "agreement" signed by Mexico's immigration service and the U.S. Border Patrol to also block northbound immigrants on public roads.

## Immigrant Roundups in the North, Renewed Blockade in the South

The new year brought new scenes in big Mexican border cities like Piedras Negras across from the recently swamped Eagle Pass, Texas, and the city of Juarez, the same ones where jam-packed trains of a month ago reportedly now arrive nearly empty.

"Agents from the National Migration Institute can be seen chasing migrants from the banks of the river who do not give up and are waiting for the moment to be able to cross to the U.S. side," The Juarez Herald [reported in a January 11 story headlined](#) "Military Prevents Migrant Families from Crossing to the U.S."

Many of those whom authorities manage to catch end up on highly deterring flights to Villahermosa or Tapachula or even all the way back to home countries, an action that, if a recent history of these is any indication, can significantly retard repeat efforts to reach the American border. Round-up operations seem ubiquitous in northern Mexico these days — for how long no one can say.

“A convoy of 10 units from the National Migration Institute and the Municipal Public Security Secretariat traveled along the banks of the Rio Grande, which remained without the presence of migrants,” [El Diario explained for a January 10 video report](#). “According to the municipal authority, the federal government sent them a letter to request their security support to carry out a tour of the border limits while the INM reported that the edge of the Rio Grande is a permanent control point.”

In the first 10 days of January, the outlet noted, irregular daily crossings of migrants to the United States have dropped by more than half, from 1,095 each day in December to 468.

The forced exodus from Piedras Negras (across the river from Eagle Pass) began just before Christmas on the eve of the Biden state visit. By December 31, at least 22 flights and as many as 30 flights departed from that city to Mexico's south, [according to the migrant advocacy group Witness to the Border](#), which tries to track them.

Orders for the flights from Piedras Negras came from on high in Mexico City, [Diario de Tabasco reported](#), and were complemented by 10 buses of migrants per day from that city.

Illegal traffic into Eagle Pass today continues, but in fractional volumes of what they were in the fall.

“Notably”, [Witness at the Border](#) reported in its December release, “Mexico also reinstated deportation flights to Venezuela with two flights.”

The in-Mexico flights and busing are happening in many other northern Mexican border cities as well. [Witness at the Border](#) reports southbound flights from towns all along the border, from Tijuana, at the border's most western edge, all the way to Matamoros near the Gulf of Mexico.

In a story headlined “[Truncated American Dream: Learn about Miguel's Story](#)”, the [Tabasco Herald](#) described how Mexican immigration agents rounded up Guatemalan Don Miguel and his six children from a long-standing migrant camp in Matamoros on December 31.

They shipped him to Villahermosa, where he has requested a back to Guatemala for lack of food or money to wait in southern Mexico.

He was far from the only one pulled from the sprawling camp in Matamoros, one that has been in place for at least five years and which I know well from a chaotic week I spent reporting in and around it in May 2023. (See “[Video Updates: Mexican Border in Chaos as Title 42 Ends](#)”).

## Reducing Shelter Space

Drawing little or no U.S. media coverage was the destruction of the long-standing Matamoros encampment, a staging area for as many as 5,000 migrants at a time wanting to cross to Brownsville.

After nearly the entire encampment's 2,000 migrants splashed over into Brownsville in December, when the Americans were overwhelmed nearly everywhere, Mexico sent in heavy equipment on December 29 to scrape away almost the whole shantytown, [this Telemundo video report shows](#).

It was done “under U.S. pressure”, [one Mexican newspaper said](#).

In another move, the Mexicans [dug trenches in spots](#) along its side of the river to deter immigrant crossers. Many other makeshift camps have formed along the river, drawing non-governmental organizations that have helped sustain the



*Part of the Matamoros migrant camp in May 2023, now mostly bulldozed. Photo courtesy of John Richey.*

border-crossers in the camp until they can cross. News reporting was insufficient to show how many of these the Mexican government also demolished.

The decline so far in January also coincides with some other Biden administration moves in countries further south. The administration, for instance, [shuttered short-cutting, \\$4,000 per one-way flights from Haiti and Cuba to Nicaragua](#) that enabled tens of thousands to cross the American border, until the U.S. State Department in October [imposed visa restrictions](#) on charter flight operators and threatened to prosecute all involved for human smuggling.

## Will Any of This Last?

Biden's motivating drive in reopening migration-related diplomacy with Mexico amid days of 14,000 apprehensions that ended with a historic 300,000 in December is to get those giant numbers and terrible visuals out of the headlines ahead of an election many predict will be won or lost on thin margins.

A source close to U.S. Customs and Border Protection's foreign operations division in Mexico told me one element of the Biden proposal is that AMLO slow the flow only until after the November election. That's uncorroborated, though plausible.

But what would AMLO get in exchange for bearing this so long? The Mexican president has called for \$20 billion to be shared among his country and some others, for starters, [according to media reports](#).

The cash is probably the main "get" for AMLO to grant this political favor, although he tacked on pie-in-the-sky asks like having the United States legalize millions of Hispanics illegally in the U.S., suspend the blockade of Cuba, and remove sanctions against Venezuela.

It's unclear if any cash has changed hands yet. If not, AMLO's moves so far would amount to a demonstration of what he can do for Biden to jumpstart some cash transfers or other favors later.

Or else.

## AMLO's Affinity for Double-Crossing Biden vs. His Fear of Trump

Feeding carrots to AMLO to slow the flow has proven short-lived compared to when Trump threatened to whack AMLO with ruinous trade tariffs if he did not help slow the flow. It's little wonder why AMLO would much prefer Biden.

AMLO has double-crossed Biden on the carrots dating to Biden's earliest months in office, when fresh-faced administration officials offered billions in exchange for bottling migrants up in southern border town of Tapachula, keeping a Trump-era strategy.

After taking the cash, AMLO stabbed Biden in the back in September 2021 by ordering the release and northward busing of 15,000 Haitians who were rioting and causing big trouble in Tapachula — so they wouldn't get in the way of upcoming "El Grito" street parties. Those Haitians went on to create the infamous "Del Rio" migrant camp crisis that made international headlines for many days. (See ["Why the Huge Illegal Alien Camp Formed in Del Rio"](#) .)

In the years since, AMLO has shown only contempt for his slow-roll commitment to Biden; he just changed the tactics a little after the Del Rio migrant camp fiasco.

[As I have repeatedly reported](#), AMLO switched to the "ant operation" strategy, which entailed releasing tens of thousands of troublesome migrants from Tapachula captivity but by spreading them out across a dozen northern provinces so that they were harder to notice.

The only hope that any horse-trading that only involves Biden carrots will last is AMLO's fear of a Trump return with his big stick that weighs on him more than the pain of the domestic turmoil.

"I do think we'll start to see riots with the Haitians and Africans in Tapachula," Christopher Landau, Trump's ambassador to Mexico told me. "If they're effective in keeping them bottled up down there in Tapachula, where it's pretty isolated from the rest of Mexico, there might not be a lot of political pressure" on AMLO to release them in ant operations.

"So, if Mexico wants to do this, it might not be that hard," Landau said. "I think it can last through the election."

But on second thought, Landau added, "I just don't know."

Topics: [Biden Border Crisis](#), [Mexico](#)

**ADAM ISACSON**

*Defense, security, borders, migration, and human rights in Latin America and the United States. May not reflect my employer's consensus view.*

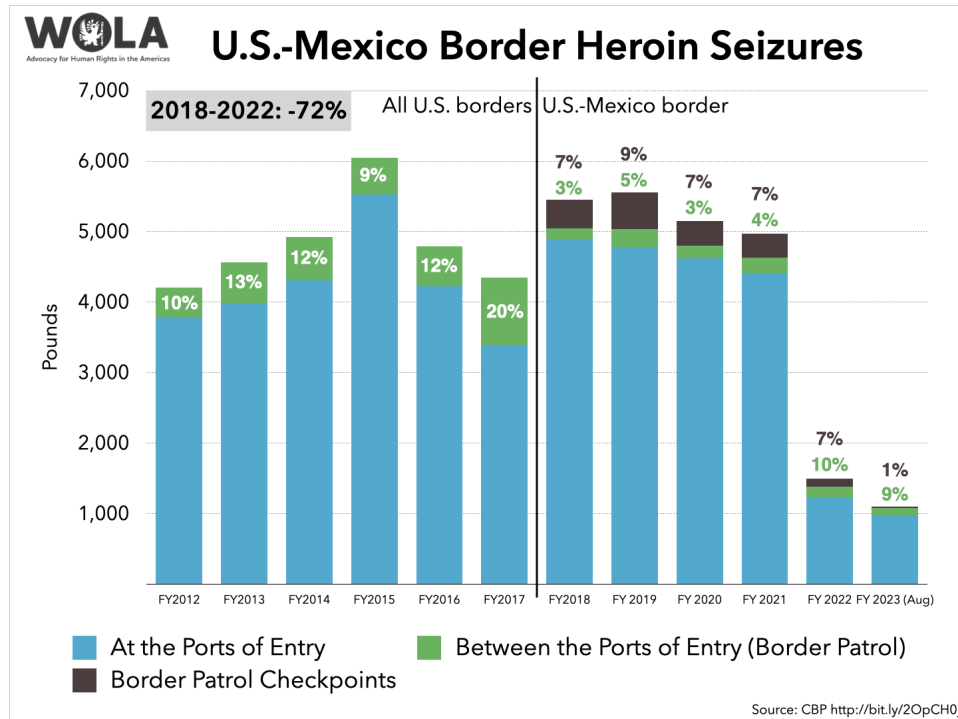


# Charts: Drug Seizures at the U.S.-Mexico Border

We now have 11 months of [data](#) from U.S. Customs and Border Protection (CBP) about how much illicit drugs the agency seized at the U.S.-Mexico border during the 2023 fiscal year so far (from October 2022 to August 2023). That’s enough to compare this year’s drug seizures with previous years’.

**With one exception—fentanyl—the data show a drop or stagnation in the amount of drugs being detected crossing the border.**

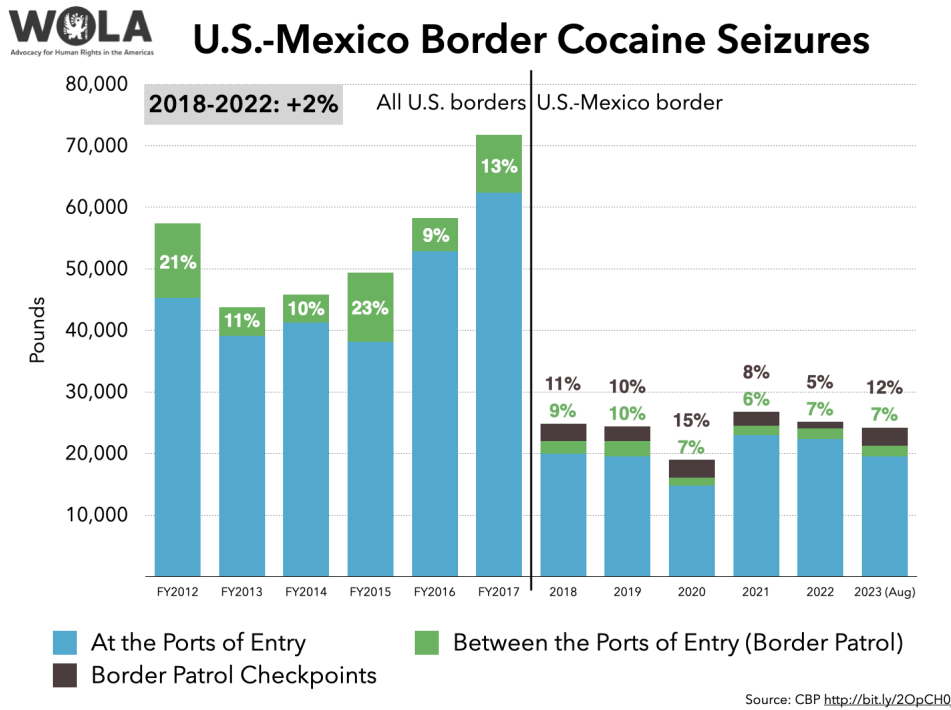
Drugs manufactured from plants are turning up less often. A few years ago, Americans addicted to prescription opioids were turning to **heroin** made in Mexico (from the poppy plant), and heroin seizures were way up. That is no longer true: fentanyl competes with heroin, and it’s cheaper and easier to make. **Heroin seizures have fallen sharply.**



[Data table](#)

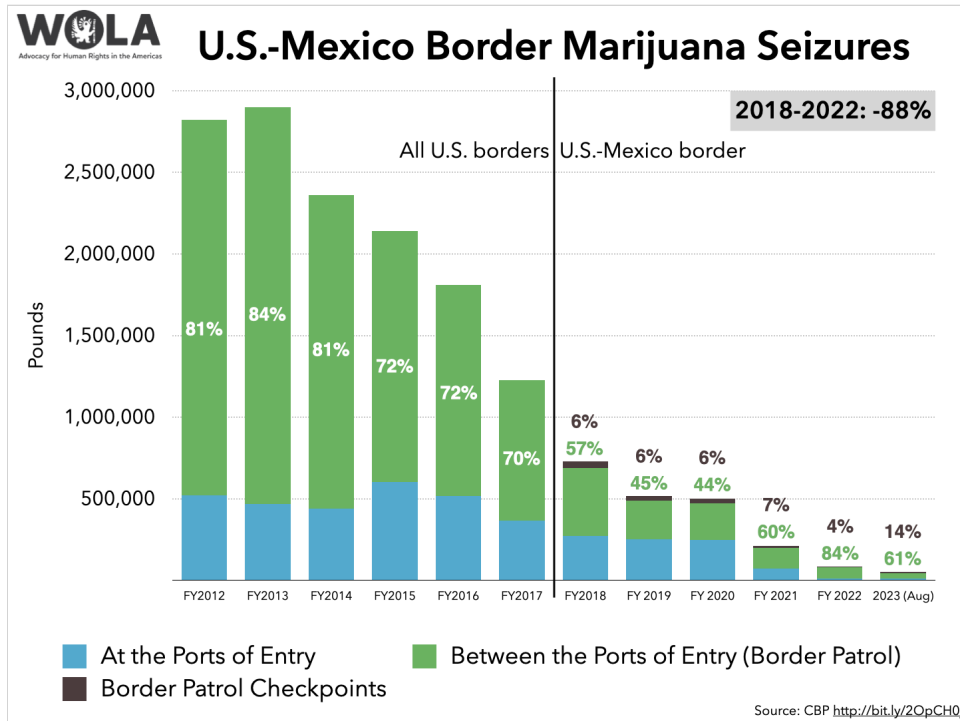
**As is the case with all drugs except marijuana, 90 percent of this year’s border heroin seizures have taken place at ports of entry** (official border crossings), where CBP’s Office of Field Operations operates—not the areas in between the ports where Border Patrol operates. 60 percent of all border-wide heroin seizures happened at California ports of entry (CBP’s San Diego Field Office).

**Cocaine** seizures are flat, despite [evidence](#) of increased production in the Andes (from the coca plant). 81 percent has been seized at ports of entry this year. 47 percent of all border-wide heroin seizures happened at California ports of entry (CBP’s San Diego Field Office), and another 23 percent at south Texas ports of entry (Laredo Field Office).



[Data table](#)

Marijuana seizures have been declining for a while. With so many U.S. states now allowing some form of legal, regulated sale of cannabis, there's far less reason to take the risk of importing it from Mexico.



[Data table](#)

Marijuana is the only drug that mostly gets seized between the ports of entry. Only 25 percent was seized at ports of entry in fiscal 2023. Most marijuana gets seized in Texas (in 2023 so far, Border Patrol's Rio Grande Valley Sector 31 percent, Border Patrol's Big Bend Sector 22 percent, CBP's Laredo Field Office 19 percent, and Border Patrol's Laredo Sector 12 percent).



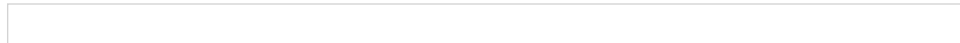
border patrol's Laredo sector (2 percent).

I haven't done the research to understand why, but seizures of a major synthetic (not plant-based) drug, **methamphetamine**, have also fallen. 88 percent of meth got seized at ports of entry this year. Of all border-wide 2023 seizures, 63 percent happened at California ports of entry (CBP's San Diego Field Office).



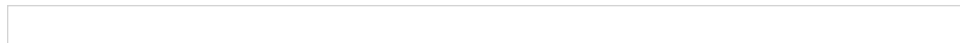
[Data table](#)

The one drug that's being seized in far greater amounts is **fentanyl**. CBP seized 106 percent more of the highly potent, highly compact synthetic opioid in the first 11 months of fiscal 2023 than it did in the same period of fiscal 2022. (That's measured in the weight of pills or other form of seized doses, not the weight of pure fentanyl.)



[Data table](#)

89 percent of fentanyl seizures took place at ports of entry during the first 11 months of fiscal 2023. The ports in California (San Diego, blue) and Arizona (Tucson, green) have accounted for 87 percent of all 2023 fentanyl seizures border-wide.



[Data table](#)

□ ASYLUM REQUESTS IN MEXICO BY NATIONALITY

THE ADMINISTRATION'S BORDER WALL MESSAGING WILL  
MAKE YOUR HEAD HURT □

#### AUTHOR

Adam Isacson

#### CATEGORY

Charts and Infographics

Longer-Form Posts

Notes and Comments

#### TAGS

Border Security

Cannabis

Charts

Cocaine

Drug Policy

Fentanyl

Heroin

Methamphetamine

Statistics

Ge

Your e

SEPTEMBER 14, 2022 3:46PM

## Fentanyl Is Smuggled for U.S. Citizens By U.S. Citizens, Not Asylum Seekers

By **David J. Bier**

---

Fentanyl overdoses tragically caused tens of thousands of preventable deaths last year. Many politicians who want to end U.S. asylum law claim that immigrants crossing the border illegally are responsible. An NPR-Ipsos poll last week **found** that 39 percent of Americans and 60 percent of Republicans believe, “Most of the fentanyl entering the U.S. is smuggled in by unauthorized migrants crossing the border illegally.” A more accurate summary is that fentanyl is overwhelmingly smuggled by U.S. citizens almost entirely for U.S. citizen consumers.

Here are facts:

- Fentanyl smuggling is ultimately funded by U.S. consumers who pay for illicit opioids: nearly **99 percent of whom are U.S. citizens**.
- In 2021, U.S. citizens **were** 86.3 percent of convicted fentanyl drug traffickers—ten times greater than convictions of illegal immigrants for the same offense.
- Over 90 percent of fentanyl seizures occur at **legal crossing points** or **interior vehicle checkpoints**, not on illegal migration routes, so U.S.

citizens (who are subject to less scrutiny) when crossing legally are the best smugglers.

- The location of smuggling makes sense because hard drugs at ports of entry are about 97 percent less likely to **be stopped** than are **people crossing illegally** between them.
- Just 0.02 percent of the people arrested by Border Patrol for crossing illegally possessed any fentanyl whatsoever.
- The government exacerbated the problem by banning most legal cross border traffic in 2020 and 2021, accelerating a switch to fentanyl (the easiest-to-conceal drug).
- During the travel restrictions, fentanyl seizures at ports **quadrupled** from fiscal year 2019 to 2021. Fentanyl went from a third of combined heroin and fentanyl seizures to over 90 percent.
- Annual deaths from fentanyl nearly **doubled** from 2019 to 2021 after the government banned most travel (and asylum).

It is monstrous that tens of thousands of people are dying unnecessarily every year from fentanyl. But banning asylum and limiting travel backfired. Reducing deaths requires figuring out the cause, not jumping to blame a group that is not responsible. Instead of attacking immigrants, policymakers should focus on effective **solutions** that help people at risk of a fentanyl overdose.

### **U.S. Citizen Consumers Fund Fentanyl Smuggling**

U.S. consumer payments for illicit opioids ultimately fund fentanyl smuggling. Consumers pay retail dealers who pay wholesalers, and the cash **is then** transferred back in bulk cash form to Mexico. These funds are then used to pay smugglers to bring drugs back into the United States again. The best evidence indicates that **about 99 percent** of U.S. consumers of fentanyl (or products containing fentanyl) are U.S. citizens.<sup>[i]</sup> Noncitizens appear to be about 80 percent less likely to be fentanyl consumers than their share of the population would predict. Fentanyl smuggling is almost entirely conducted on behalf of U.S. citizen consumers. Of course, consumers **would prefer** much safer and legal opioids over illicit fentanyl, but the government has unfortunately **forced** them into the black market with few safe options.

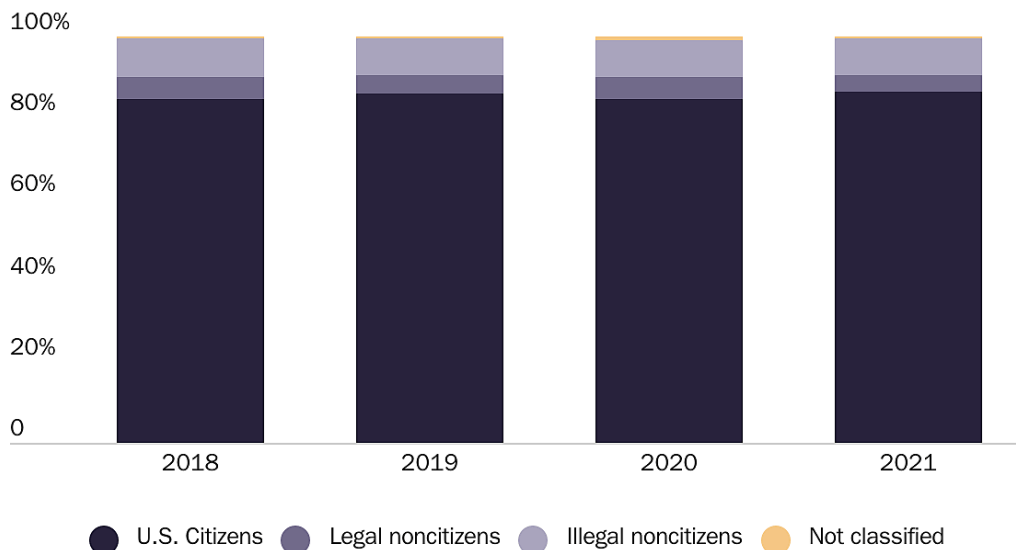
## U.S. Citizens Are Fentanyl Traffickers

Fentanyl is primarily trafficked by U.S. citizens. The U.S. Sentencing Commission publishes **data** on all federal convictions, which includes demographic information on individuals convicted of fentanyl trafficking. Figure 1 shows the citizenship status of fentanyl traffickers for 2018 to 2021. Every year, U.S. citizens receive the most convictions by far. In 2021, U.S. citizens accounted for 86.3 percent of fentanyl trafficking convictions compared to just 8.9 percent for illegal immigrants.

Figure 1

### Fentanyl drug traffickers are overwhelmingly U.S. citizens, not illegal immigrants

Citizenship status of defendants convicted of fentanyl drug trafficking, 2018-2021



Sources: U.S. Sentencing Commission, "Commission Datafiles," 2018-2021.

Note that since trafficking involves movement from Mexico to the United States, it is unclear how to measure the likelihood of conviction for a noncitizen without U.S. lawful immigration status or citizenship since the denominator would include most Mexicans in Mexico as well as anyone who crosses through Mexico. But regardless, the reality is that people with U.S. citizenship or residence traffic the vast majority of fentanyl, not illegal border crossers specifically or illegal immigrants generally.

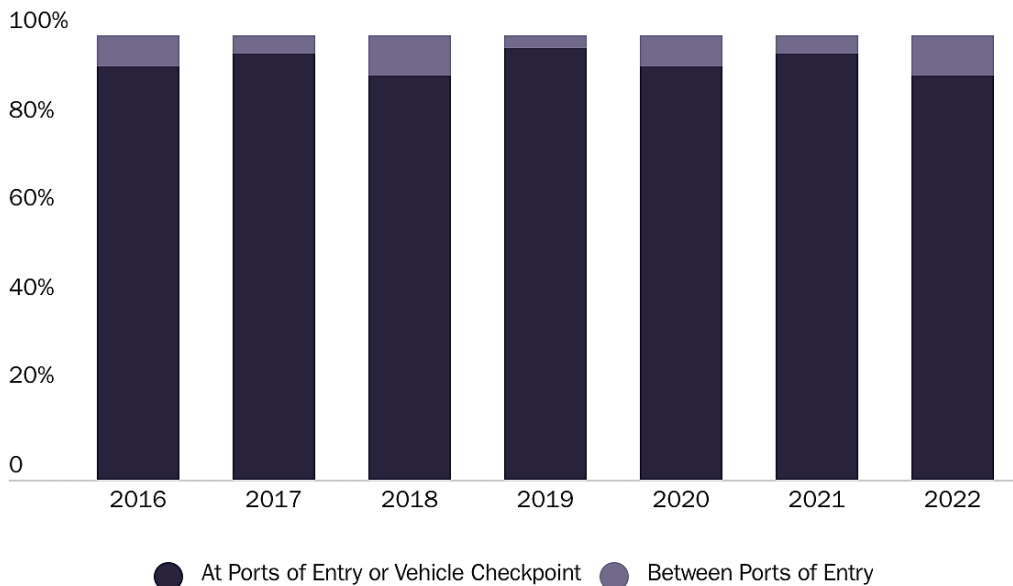
Indeed, this appears to be the case even for the most high-profile cases. Aaron Reichlin-Melnick of the American Immigration Council **analyzed** every Customs and Border Protection press release mentioning fentanyl over a 6-month period and found just 3 percent involved illegal immigrants. This

means that the agency itself believes the most important smugglers are U.S. citizens.

### U.S. Citizens Bring Fentanyl Through Legal Crossing Points

That U.S. citizens account for most fentanyl trafficking convictions is not surprising given the location of fentanyl border seizures. Over 90 percent of fentanyl border seizures occur at legal border crossings and interior vehicle checkpoints (and 91 percent of drug seizures at checkpoints **are from U.S. citizens**—only 4 percent by “potentially removable” immigrants). In 2022, so far, Border Patrol agents who were not at vehicle checkpoints accounted for just 9 percent of the fentanyl seizures near the border (Figure 2). Since it is easier for U.S. citizens to cross legally than noncitizens, it makes sense for fentanyl producers to hire U.S. citizen smugglers.

Figure 2  
**Fentanyl is primarily smuggled through legal ports of entry, not illegal entry routes**  
Location of fentanyl seizures by Customs and Border Protection, 2016-2021



Sources: Customs and Border Protection, "Enforcement Statistics," 2022.

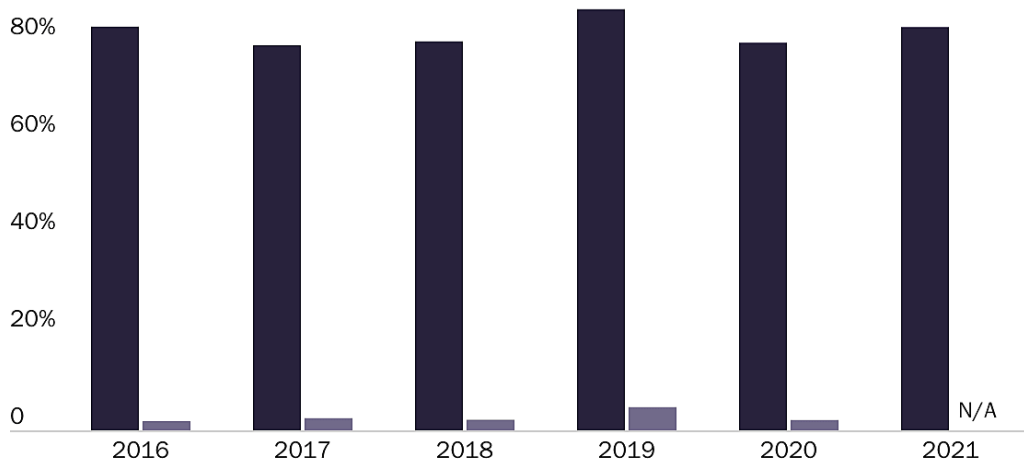
The DEA **reports** that criminal organizations “exploit major highway routes for transportation, and the most common method employed involves smuggling illicit drugs through U.S. [ports of entry] in passenger vehicles with concealed compartments or commingled with legitimate goods on tractor-trailers.” Several agencies including CBP, ICE, and DHS intelligence **told** Congress in May 2022 the same thing: hard drugs come through ports of entry.

Some people posit that less fentanyl is interdicted between ports of entry because it is more difficult to detect there. But the opposite is true: fentanyl is smuggled through official crossing points specifically because it is easier to conceal it on a legal traveler or in legal goods than it is to conceal a person crossing the border illegally. Customs and Border Protection **estimates** that it caught 2 percent of cocaine at southwest land ports of entry in 2020 (the only drug it analyzed), while it **estimated** that its interdiction effectiveness rate for illegal crossers was about 83 percent in 2021 (Figure 3).<sup>[ii]</sup> This means that drugs coming at a port of entry are about 97 percent less likely to be interdicted than a person coming between ports of entry, and this massive incentive to smuggle through ports would remain even if Border Patrol was far less effective at stopping people crossing illegally than it now estimates that it is.

Figure 3

**Smuggling drugs is easier at ports of entry than between ports of entry**

Interdiction effectiveness rate (crossers) & seizure effectiveness rate (cocaine at ports), FY 2016-2021



● Interdiction rate (people between ports) ● Drug seizure rate (cocaine at ports)

Sources: Customs and Border Protection, "Budget," 2020, 2022; "Border Security Metrics Report: 2021," Department of Homeland Security, April 27, 2022.

Notes: Interdiction effectiveness rate is the percent of detected illegal entrants who were apprehended. Cocaine effectiveness is the percent of cocaine seized at land ports out of total estimated flow of cocaine.

**Closing Ports Increased Fentanyl Smuggling**

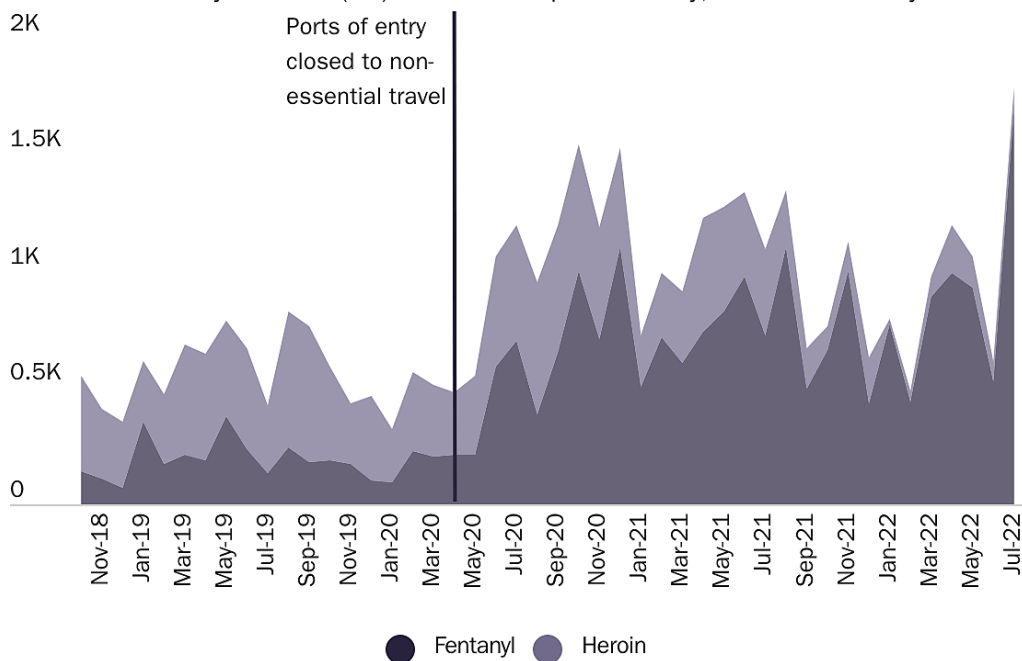
During the early days of the pandemic, the Trump administration drastically restricted legal travel to the United States, banning nonessential travel through land ports of entry from Mexico in particular **in late-March 2020**. Because there were fewer opportunities to traffic drugs at ports of entry, traffickers switched to trafficking more fentanyl. Because fentanyl is at least

**50 times** more potent per pound than heroin and other drugs, smugglers need fewer trips to supply the same market. The seizure data demonstrate the change in tactics. From October 2018 to February 2020, about a third of fentanyl and heroin seizures at southwest ports of entry were fentanyl with no clear upward trend. By the time the travel restrictions were ended (at least for vaccinated travelers) in **January 2022**, over 90 percent of heroin-fentanyl seizures were fentanyl. Unfortunately, the market shift has continued. The absolute amount of fentanyl being seized quadrupled (Figure 4).

Figure 4

**Fentanyl smuggling became more prevalent after most legal travel was banned**

Heroin and fentanyl seizures (lbs) at southwest ports of entry, October 2018-July 2022



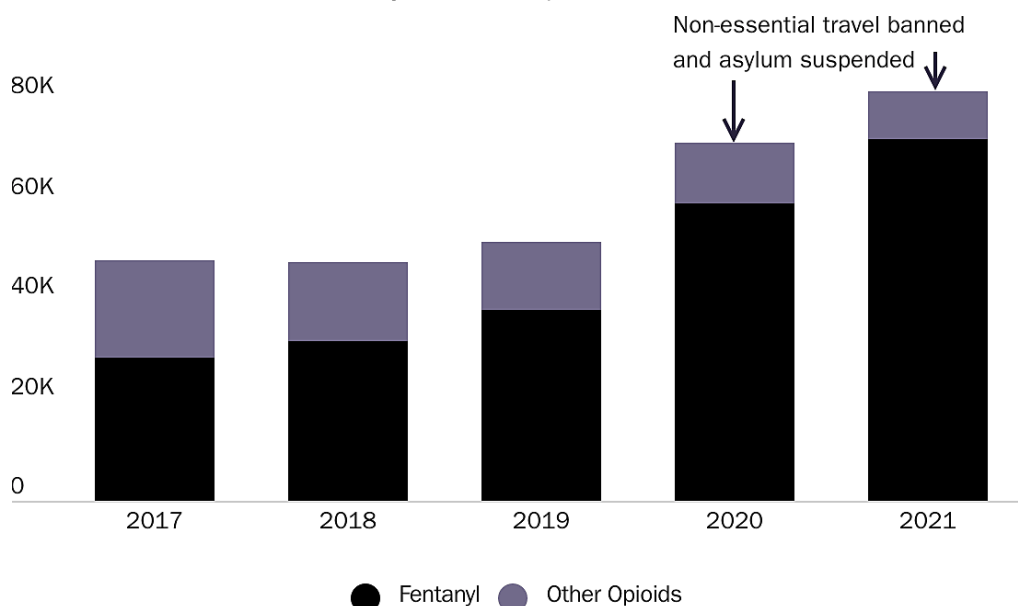
Sources: Customs and Border Protection, "Drug Seizure Statistics," 2022.

The United Nations Office on Drugs and Crime **reported** that in mid-2020, as a result of travel restrictions, "Many countries have reported drug shortages at the retail level, with reports of heroin shortages in Europe, South-West Asia and North America in particular" and that "heroin users may switch to substances such as fentanyl." The DEA **predicted** in 2020 that "additional restrictions or limits on travel across the U.S.-Mexico border due to pandemic concerns will likely impact heroin DTOs [drug trafficking organizations], particularly those using couriers or personal vehicles to smuggle heroin into the United States," leading to "mixing fentanyl into distributed heroin."



Unsurprisingly, the increased reliance on fentanyl has increased fentanyl deaths. Indeed, it appears that the border closures rapidly accelerated the transition from heroin to fentanyl, leading to tens of thousands of additional deaths per year (Figure 5). Note that 2021 data undercount the true number of deaths because not all locations have reported. Nonetheless, the annual number of fentanyl deaths have nearly doubled between 2019 and 2021. Banning asylum under Title 42 of the U.S. code probably had no effect on these trends, but it certainly did not help reduce fentanyl deaths, as some have claimed.

Figure 5  
**Closing legal travel and suspending asylum exacerbated fentanyl deaths**  
Deaths from overdoses on fentanyl and other opioids, 2017-2021



Sources: "Provisional Drug Overdose Death Counts," Centers for Disease Control and Prevention, 2022.

Note: 2021 data are underreported due to incomplete data. 12-month periods before each January.

### **Asylum Seekers Don't Aid Fentanyl Smuggling**

Fentanyl smuggling is not a reason to end asylum. The people arrested by Border Patrol are not smuggling fentanyl. Just 279 of 1.8 million arrests by Border Patrol of illegal border crossers resulted in a fentanyl seizure—too small of a percentage (0.02 percent) to appear on a graph—and many of these seizures occurred at vehicle checkpoints of legal travelers in the interior of the United States.

Nonetheless, some officials have asserted that asylum seekers *distract* Border Patrol from drug interdiction efforts. If asylum seekers were indirectly aiding drug smuggling, however, we would expect the effect to show up in

the seizure trends by changing the locations, times, or amounts of the seizures in some way. But drug seizure trends simply **do not deviate** measurably with greater arrests of asylum seekers. This is true on several different metrics: across time, between sectors, along mile-distance from the border, or the share of seizures at ports of entry versus between them. If the administration **legalized asylum at ports of entry**, even this hypothetical problem would disappear.

### **Aggressive Drug Interdiction Exacerbates Fentanyl Smuggling**

The fentanyl problem is a direct consequence of drug prohibition and interdiction. As my colleague Dr. Jeff Singer **has written**:

Fentanyl's appearance in the underground drug trade is an excellent example of the "**iron law of prohibition**:" when alcohol or drugs are prohibited they will tend to get produced in more concentrated forms, because they take up less space and weight in transporting and reap more money when subdivided for sale.

Fentanyl is at least **50 times** more powerful per pound than heroin, which means you have to smuggle nearly 50 pounds of heroin to supply the market that a single pound of fentanyl could. This is a massive incentive to smuggle fentanyl, and the more efforts are made to restrict the drug trade, the more fentanyl will be the drug that is smuggled. The DEA **has even** admitted, "The low cost, high potency, and ease of acquisition of fentanyl may encourage heroin users to switch to the drug should future heroin supplies be disrupted." In other words, heroin interdiction makes the fentanyl problem worse.

### **Conclusion**

Border enforcement will not stop fentanyl smuggling. Border Patrol's experience with marijuana smuggling may provide even clearer evidence for this fact. Marijuana is the bulkiest and easiest-to-detect drug, which is why it was largely trafficked between ports of entry. Despite doubling the Border Patrol and building a border fence in the 2000s in part to combat the trade, the only thing that actually reduced marijuana smuggling **was U.S. states legalizing marijuana**. It is absurd to believe that interdiction will be more effective against a drug that is orders of magnitude more difficult to detect.

The DEA plainly stated in 2020 that fentanyl “will likely continue to contribute to high numbers of drug overdose deaths in the United States” even with the ban on asylum and travel restrictions. But ending asylum or banning travel has been worse than useless. These policies are both directly and indirectly counterproductive: first directly by incentivizing more fentanyl smuggling and then indirectly by distracting from the true causes of the crisis.

My colleagues **have been** warning for **many years** that doubling down on these failed prohibition policies will lead to even worse outcomes, and unfortunately, time has repeatedly proven them correct. The only appropriate response to the opioid epidemic is **treatment of addiction**. But for this to be possible, the government must adopt policies that facilitate treatment and **reduce the harms** from addiction—most importantly deaths. To develop these policies, policymakers need to ignore the calls to blame foreigners for our problems.

## Notes

---

[i] This is based on overdose statistics, and last year, fentanyl **caused** 88 percent of opioid overdose deaths.

[ii] The cocaine seizure effectiveness rate includes an estimate of all cocaine that escaped detection, while the interdiction effectiveness rate for people only includes *detected* crossings. Including undetected crossings would lower the effectiveness rate for people, but because many arrests are the same person crossing after a prior arrest (**27 percent in 2021**), the interdiction effectiveness rate is a better estimate of the likelihood of being arrested during a first attempt, which would be all that is necessary to disrupt a drug smuggling attempt. Regardless, in 2020, DHS **estimated** an apprehension rate that included undetected crossings of 66.2 percent compared to 79.4 percent using only detected crossings. This would mean that drugs **were** only 96.8 percent rather than 97.4 percent less likely to be apprehended.

---

## RELATED TAGS

[Immigration](#), [Drug War](#)



This work is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](#).



## RESEARCH ARTICLE

# Socioeconomic risk factors for fatal opioid overdoses in the United States: Findings from the Mortality Disparities in American Communities Study (MDAC)

Sean F. Altekruze<sup>1\*</sup>, Candace M. Cosgrove<sup>2</sup>, William C. Altekruze<sup>3</sup>, Richard A. Jenkins<sup>4</sup>, Carlos Blanco<sup>4</sup>

**1** Division of Cardiovascular Sciences, National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, Maryland, United States of America, **2** Center for Administrative Records Research and Applications, U.S. Bureau of the Census, Suitland, Maryland, United States of America, **3** Division of Translational Research, National Institute of Mental Health, National Institutes of Health, Bethesda, Maryland, United States of America, **4** Division of Epidemiology, Services, and Prevention Research, National Institute on Drug Abuse, National Institutes of Health, Bethesda, Maryland, United States of America

\* [altekruzesf@mail.nih.gov](mailto:altekruzesf@mail.nih.gov)



## OPEN ACCESS

**Citation:** Altekruze SF, Cosgrove CM, Altekruze WC, Jenkins RA, Blanco C (2020) Socioeconomic risk factors for fatal opioid overdoses in the United States: Findings from the Mortality Disparities in American Communities Study (MDAC). *PLoS ONE* 15(1): e0227966. <https://doi.org/10.1371/journal.pone.0227966>

**Editor:** Becky L. Genberg, Johns Hopkins University, UNITED STATES

**Received:** June 14, 2019

**Accepted:** January 3, 2020

**Published:** January 17, 2020

**Peer Review History:** PLOS recognizes the benefits of transparency in the peer review process; therefore, we enable the publication of all of the content of peer review and author responses alongside final, published articles. The editorial history of this article is available here: <https://doi.org/10.1371/journal.pone.0227966>

**Copyright:** This is an open access article, free of all copyright, and may be freely reproduced, distributed, transmitted, modified, built upon, or otherwise used by anyone for any lawful purpose. The work is made available under the [Creative Commons CC0](https://creativecommons.org/licenses/by/4.0/) public domain dedication.

**Data Availability Statement:** Minimal data for the present MDAC analysis were comprised of the following variables: cause of death, age, race,

## Abstract

### Background

Understanding relationships between individual-level demographic, socioeconomic status (SES) and U.S. opioid fatalities can inform interventions in response to this crisis.

### Methods

The Mortality Disparities in American Community Study (MDAC) links nearly 4 million 2008 American Community Survey responses to the 2008–2015 National Death Index. Univariate and multivariable models were used to estimate opioid overdose fatality hazard ratios (HR) and 95% confidence intervals (CI).

### Results

Opioid overdose was an overrepresented cause of death among people 10 to 59 years of age. In multivariable analysis, compared to Hispanics, Whites and American Indians/Alaska Natives had elevated risk (HR = 2.52, CI:2.21–2.88) and (HR = 1.88, CI:1.35–2.62), respectively. Compared to women, men were at-risk (HR = 1.61, CI:1.50–1.72). People who were disabled were at higher risk than those who were not (HR = 2.80, CI:2.59–3.03). Risk was higher among widowed than married (HR = 2.44, CI:2.03–2.95) and unemployed than employed individuals (HR = 2.46, CI:2.17–2.79). Compared to adults with graduate degrees, those with high school only were at-risk (HR = 2.48, CI:2.00–3.06). Citizens were more likely than noncitizens to die from this cause (HR = 4.62, CI:3.48–6.14). Compared to people who owned homes with mortgages, those who rented had higher HRs (HR = 1.36, CI:1.25–1.48). Non-rural residents had higher risk than rural residents (HR = 1.46, CI:1.34, 1.59). Compared to respective referent groups, people without health insurance (HR = 1.30,

Hispanic ethnicity, sex, disability, marital status, employment status, educational attainment, citizenship, housing tenure, rurality, health insurance status, incarceration, household poverty, and Census Division. MDAC data cannot be shared publicly in accordance with U.S. Code Title 13 privacy protection requirements. Data are, however available on a need to know basis via submission of a request to the MDAC Steering Committee as outlined on the MDAC website: [www.census.gov/mdac](http://www.census.gov/mdac). Need to know justifications include analysis for publication, validation of prior publication findings, or extension of previous research. There are two principal methods available to access the full MDAC dataset. The authors of the present study accessed the MDAC dataset in coordination with a Census Bureau analyst. The other option is to independently access the data as a Census Bureau Special Sworn Status investigator, at a Federal Statistical Research Data Center (FSRDC). FSRDC information is found at the website: [www.census.gov/fsrdc](http://www.census.gov/fsrdc). The authors of the present study had no special access privileges in accessing MDAC which other interested researchers would not have.

**Funding:** The authors received no specific funding for this work. MDAC is funded by National Heart, Lung, and Blood Institute and National Institute on Aging agreements with the Census Bureau. The National Center for Health Statistics performed the National Death Index match and the Center for Medicare and Medicaid Services performed the CMS match.

**Competing interests:** The authors have declared that no competing interests exist.

CI:1.20–1.41) and people who were incarcerated were more likely to die from opioid overdoses (HR = 2.70, CI:1.91–3.81). Compared to people living in households at least five-times above the poverty line, people who lived in poverty were more likely to die from this cause (HR = 1.36, CI:1.20–1.54). Compared to people living in West North Central states, HRs were highest among those in South Atlantic (HR = 1.29, CI:1.11, 1.50) and Mountain states (HR = 1.58, CI:1.33, 1.88).

## Discussion

Opioid fatality was associated with indicators of low SES. The findings may help to target prevention, treatment and rehabilitation efforts to vulnerable groups.

## Introduction

In the United States fatal drug overdose rates more than tripled from 1999 to 2017. Opioid overdoses were by far the largest contributor to the 70,237 fatal drug overdoses in the United States during 2017. [1] The U.S. opioid epidemic has evolved over time. [2] In the early 1980s, opioids were primarily prescribed for acute pain, and a substantial fraction of drug-related deaths were attributed to the diversion to opioids to non-medical uses. A decade later, in response to perceived undertreatment, the practice of prescribing opioids for chronic pain management gained increasing favor. By 2000, this trend accelerated after the withdrawal of popular prescription nonopioid analgesics due to cardiovascular risks and because of concerns about acetaminophen toxicity. Circa 2010, combined opioid analgesic and heroin use was reported with increased frequency. By the late 2010s, potent products such as fentanyl and its analogs were increasingly reported in counterfeit pills and street drugs.

In response to the changing epidemic, increased focus has been recommended not only on supply chains for prescribed and illicit opioids, but also on root societal causes of opioid dependence. Rising opioid fatality rates contribute to declining U.S. life expectancy, [3] along with a few other causes of death, commonly referred to as “deaths of despair.” [4] This term provides a useful contextual framework for studying socioeconomic risk factors of opioid overdoses and interventions to prevent associated fatalities. Nationwide, the rising rate of fatal opioid overdoses has disproportionately [5] but not exclusively [6] affected Whites, men and middle-aged individuals. The highest opioid overdose death rates are reported in Mountain, Rust Belt, and New England states as well as the South. [7] In 2017, a shift was seen in the urbanicity of the epidemic, with higher opioid overdose death rates in urban than rural areas. [8] At-risk socioeconomic groups for fatal drug use include middle-aged men and women [9], people in lower income strata, insecure housing, those who did not graduate from high school, and recently released prisoners. [10] People who are divorced or separated are also at increased risk for fatal opioid overdose. [11] Although data on SES attributes including education, income, and employment are available at the county [12] and census tract-level [13], the gold standard for analysis is use of individual-level data to examine effects of personal attributes. There is a paucity of individual-level data on prospective relationships between individual-level SES measures and risk of fatal opioid overdose, including for critical factors such as health insurance coverage, employment and marital status, and incarceration. [14]

National surveillance systems for opioid mortality typically do not capture detailed individual-level SES data. [1, 5, 6, 7, 8] Well-designed studies that include these data are often set in smaller geographic areas such as states, [11] and are not generalizable to the U.S. population.

In this study we analyzed individual-level residential, demographic, and SES data from the Mortality Disparities in American Community Study (MDAC). [15] The study included 3,934,000 people whose 2008 American Community Survey (ACS) [13] responses were linked to the National Death Index through 2015 [16] for longitudinal analysis. The MDAC database supported our aim to estimate hazard ratios for demographic, geospatial, and individual-level SES risk factors and fatal opioid overdose in the United States.

## Methods

The MDAC study [15] is a collaborative project of the U.S. Census Bureau; the Centers for Disease Control and Prevention (CDC), National Centers for Health Statistics; the Center for Medicare and Medicaid Services, and the National Institute on Aging and National Heart, Lung, and Blood Institute of the National Institutes of Health. The 2008 wave of the ACS [13] was linked to NDI [16] death certificate records from 2008 to 2015 to create the nationally representative MDAC database of children and adults. Linkage was based on either social security number or the dyad of first and last name, and date of birth. Up to 10 possible matches per ACS record were returned to the Census Bureau. Results were then run through a Census Bureau algorithm that used address, family member names, and other demographic and SES characteristics to assess whether a match was a true match.

The sample frame for the ACS is derived from the Master Address File. Sampling is designed to approximate age, sex, race, Hispanic ethnicity, and state of residence distributions observed in the Census Bureau's annual United States population estimates. Whites were over-sampled by about 2% compared to the 2010 Census, and therefore observations for this group were assigned weights of slightly less than one. Other racial/ethnic groups were undersampled by one percent or less, given weights slightly above one. Overall weights were centered on one observation per respondent i.e., the weighted sample approximates the number of 2008 ACS responses rather than the U.S. population. Table cell counts were rounded to four significant digits to prevent disclosure of identity.

The MDAC reference manual [15] describes variables used in this analysis. Minimal data for analysis required cause of death, age, race, Hispanic ethnicity, sex, disability, marital status, employment status, educational attainment, citizenship, housing tenure, rurality, health insurance status, incarceration, household poverty, and Census Division. NDI data indicated if respondents died over 7-year follow-up, from date of ACS 2008 survey to December 31, 2015. International Classification of Diseases, 10th Revision (ICD-10) [17] mortality codes defined cause of death. Since non-specific fatal opioid overdoses account for the majority of fatal opioid overdoses on death certificates [7], opioid overdoses were defined in one category, using ICD-10 multiple-cause-of-death codes T40.0-T40.4 and T40.6 (opium, heroin, other opioids, methadone, synthetic narcotics other than methadone, and unspecified narcotic; respectively). Poverty status was defined using Census Bureau methods, based on total family income in the past 12 months, family size, and age composition. If total income of the householder's family was less than the 2008 threshold for the family, the person was considered "below the poverty level," together with every member of his or her family. Matrix tables for poverty level calculations do not vary across the 50 states and the District of Columbia.

The initial MDAC dataset included over 4,512,000 participants who resided in over 73,000 census tracts across 3,000 county equivalents located in the 50 states and the District of Columbia. We excluded people younger than 10 because the small number of opioid fatalities in this age group would require their data to be suppressed to avoid disclosure of identity and 578,000 (12.8%) ACS records without data for NDI linkage (i.e., social security number or name and

date of birth). Comparisons of age, sex, race, and ethnicity of respondents in MDAC and those without data needed for inclusion revealed no overt biases.

Cox Proportional Hazard Models [18] were developed (SAS v9.4, Cary, NC) to estimate hazard ratios (HR) and 95% confidence intervals for variables of interest using weighted, unrounded cell counts. Person-years-contributed were calculated and time-to-event was determined for opioid overdoses and other causes of death. Person-years were censored at time of death for causes other than opioid overdose and on December 31, 2015 for people who were alive (i.e. no NDI record). Multistage sampling of the ACS were conducted using the PHREG procedure (SAS v9.4, Cary, NC).

Referent groups were selected based on a priori data on groups with lowest risk of opioid overdose death, with accommodation to ensure there were sufficient events in the referent group to yield a stable HR. Thus Hispanics were selected as the referent race/ethnicity group rather than Asians and Pacific Islanders and continuous age and age squared variables (to adjust for nonparametric distribution) were used to analyze the effect of age. In addition to univariate models, partially adjusted models included age, sex, and race/ethnicity. The final model included demographic, geographic, and SES. This design enabled evaluation of changes in effects as demographic and SES covariates of interest [19] were added to models. To limit collinearity among variables, educational attainment and employment status were retained while occupation was eliminated. Similarly, citizenship status was retained while place of birth was eliminated. Final model development used a forward stepwise regression process (PROC PHREG, SAS v9.4) to select one variable at a time based on statistical significance of the Chi-squared test of regression model parameter estimates. All 15 variables were retained in the final model, listed in order of selection: disability, marital status, employment, age squared, continuous age, race/ethnicity, sex, educational attainment, [19] citizenship, housing status, rural versus nonrural residence, [20] health insurance, incarceration at time of survey, household poverty, and Census Division [21].

The Office of Management and Budget approved collection and analysis of de-identified ACS data. To meet Title 13 privacy protection requirements, a research proposal was submitted to the MDAC Steering Committee, with data access by a Census analyst assistance, a processes available to all investigators. Output was reviewed by the Census Bureau Disclosure Review Board to ensure confidentiality.

## Results

After exclusion of participants whose ACS responses could not be linked to the NDI, followed by weighting to age, sex, race, Hispanic ethnicity, and state of residence distributions of the U. S. population, and rounding weighted results to four significant digits for privacy protection data on 3,934,000 people were available for analysis. Among them 3800 were classified as having died from an opioid overdose. Another 264,000 died of other causes and 3,666,000 were alive at the end of 2015. A total of 13,620 person-years were contributed by people who died of opioid overdoses, with 1,165,000 person-years among people who died of other causes, and 27,290,000 person-years for people who were classified as alive on December 31, 2015.

**Table 1** presents MDAC counts by vital status at end of follow-up. Differentials in cause of death were seen across age groups. People who were 10 to 19 years of age accounted for 8.8% of fatal opioid overdoses and 0.8% of other deaths. People who were 20 to 39 years of age accounted for 41.1% of opioid overdose deaths and 3.7% of other deaths. People in the 40 to 59 years age group accounted for 43.8% of opioid overdose deaths and 17.4% of other deaths. People who were 60 to 79 years of age accounted for 5.4% of opioid-related deaths but 41.0%



**Table 1. Opioid overdose deaths, deaths from other causes, and people alive at end of study follow-up period (2008–2015), MDAC Study.**

Attribute		Opioid Overdose	%	Other Deaths	%	Alive	%
Age Group (Years)							
	10 to 19	335	8.8%	2238	0.8%	630500	17.2%
	20 to 39	1557	41.1%	9687	3.7%	1218000	33.2%
	40 to 59	1660	43.8%	45830	17.4%	1216000	33.2%
	60 to 79	203	5.4%	108300	41.0%	532300	14.5%
	80+	36	0.9%	97850	37.1%	69270	1.9%
Race/Ethnicity*							
	Hispanic	277	7.3%	15690	5.9%	542700	14.8%
	Asian and Pacific Islander	29	0.8%	7736	2.9%	173700	4.7%
	American Indian Alaskan Native	43	1.1%	1570	0.6%	23870	0.7%
	Black	311	8.2%	27870	10.6%	441100	12.0%
	White	3057	80.7%	209000	79.2%	2435000	66.4%
	Other	73	1.9%	2054	0.8%	49720	1.4%
Sex							
	Female	1499	39.5%	135000	51.1%	1871000	51.0%
	Male	2292	60.5%	129000	48.9%	1795000	49.0%
Disability							
	Not Disabled	2420	63.9%	116500	44.1%	3257000	88.8%
	Disabled	1370	36.1%	147400	55.9%	409400	11.2%
Marital Status							
	Married	1045	27.6%	114300	43.3%	1696000	46.3%
	Never Married	1627	42.9%	28310	10.7%	1406000	38.3%
	Widowed	146	3.9%	82040	31.1%	142300	3.9%
	Separated	165	4.4%	4846	1.8%	72340	2.0%
	Divorced	809	21.3%	34460	13.1%	350100	9.5%
Employment							
	Employed	1520	40.1%	47870	18.1%	2155000	58.8%
	Unemployed	367	9.7%	4205	1.6%	144100	3.9%
	Not in labor force	1787	47.1%	210900	79.9%	1000000	27.3%
	Age less than 16 years	117	3.1%	984	0.4%	366200	10.0%
Educational Attainment							
	Master/ Doctorate	99	2.6%	15370	5.8%	292000	8.0%
	Bachelor's Degree	259	6.8%	24940	9.4%	537100	14.7%
	Some College/ Associate Degree	1192	31.4%	56370	21.4%	997900	27.2%
	High School/GED	1341	35.4%	93150	35.3%	899500	24.5%
	Less than High School	900	23.7%	74090	28.1%	939600	25.6%
Citizenship							
	Not a U.S. citizen	53	1.4%	7006	2.7%	306300	8.4%
	U.S. Citizen	3738	99.6%	256900	97.3%	3360000	91.6%
Housing tenure							
	Own with mortgage	1377	36.3%	72250	27.4%	1881000	51.3%
	Group quarters	267	7.0%	25650	9.7%	93960	2.6%
	Live in house without rent	79	2.1%	5464	2.1%	55270	1.5%
	Own, no mortgage	616	16.2%	104600	39.6%	614200	16.8%
	Rent	1452	38.3%	55910	21.2%	1022000	27.9%
Rural/Nonrural Residence							
	Rural	784	20.7%	61660	23.4%	854000	23.3%

(Continued)

Table 1. (Continued)

Attribute		Opioid Overdose	%	Other Deaths	%	Alive	%
Health Insurance	Nonrural	3007	79.3%	202300	76.6%	2812000	76.7%
	Insured	2686	70.9%	248200	94.1%	3040000	82.9%
	Uninsured	1105	29.1%	15700	5.9%	626000	17.1%
Incarceration*	Incarcerated	178	4.7%	1192	0.5%	30660	0.8%
	Not incarcerated	3613	95.3%	262760	99.5%	3635310	99.2%
Household Poverty	500%-999%	604	15.9%	47870	18.1%	1049000	28.6%
	300%-499%	771	20.3%	54350	20.6%	919300	25.1%
	100%-299%	1263	33.3%	105700	40.1%	1184000	32.3%
	Less than 100%	931	24.6%	34140	12.9%	428700	11.7%
	Other*	223	5.9%	21860	8.3%	84560	2.3%
Census Division	West North Central	214	5.6%	18760	7.1%	242100	6.6%
	New England	167	4.4%	12370	4.7%	176100	4.8%
	East South Central	246	6.5%	18600	7.0%	214100	5.8%
	West South Central	400	10.6%	29230	11.1%	414800	11.3%
	Pacific	533	14.1%	35550	13.5%	598700	16.3%
	Mid Atlantic	486	12.8%	36200	13.7%	496500	13.5%
	East North Central	660	17.4%	42790	16.2%	558300	15.2%
	South Atlantic	731	19.3%	53620	20.3%	705900	19.3%
	Mountain	352	9.3%	16820	6.4%	259600	7.1%

\* Non-Hispanic Race and Hispanic Ethnicity. Incarceration at time of survey

Cell frequencies are weighted to the U.S. population, with rounding according to Census Bureau identity protection rules.

DRB release numbers: CBDRB-FY19-304.

<https://doi.org/10.1371/journal.pone.0227966.t001>

of other deaths, while those and 80+ years of age accounted for 0.9% of opioid-related deaths but 37.1% of other deaths.

Whites accounted for 80.7% of opioid overdose deaths and 66.4% of people who were alive at the end of follow-up. American Indians and Alaskan Natives and Asians and Pacific Islanders each accounted for approximately 1% of opioid overdose deaths, and Blacks and Hispanics accounted for 8.2% and 7.3% of these deaths, respectively. Women accounted for 39.5% while men accounted for 60.5% of fatal opioid overdoses. Disabled people accounted for 36.1% of opioid deaths and 11.2% of people who were alive at the end of the study period. The proportion of opioid overdose deaths that occurred among those who had never married was 42.9%, and people who were divorced accounted for 21.3% of fatal opioid overdoses. People who were not in the labor force accounted for 47.1% and the unemployed accounted for 9.7% of opioid overdose deaths.

People whose highest level of educational attainment was a High School diploma or GED only, with no college accounted for 35.4% of opioid overdose deaths, with 23.7% of opioid overdose deaths among people who did not complete high school. U.S. citizens accounted for 98.6% of opioid overdose deaths. Those who rented accounted for 38.3% of opioid overdose deaths. People residing in nonrural areas accounted for 79.3% of opioid overdose deaths while rural residents accounted for 20.7% of opioid overdose deaths. Those who were uninsured accounted for 29.1% of fatal opioid overdoses. People who were incarcerated at the time of

their survey accounted for 4.7% of fatal opioid overdoses. People living below the poverty line accounted for 24.6% of opioid overdose deaths and 11.7% of those who were alive at the end of the study. The distributions of opioid overdose deaths across Census Division were generally similar to those for other deaths and people alive at the end of the study period.

Hazard ratios and 95% CIs for univariate, partially adjusted models, and a final proportional hazard model are presented in [Table 2](#). In the final model, results included the following: A statistically significant HR and 95% confidence interval (CI) was seen for age, as a continuous variable (HR = 1.18, CI: 1.16, 1.20), reflecting that 85% of deaths occurred among adults 20 to 59 years of age at time of ACS survey. The HR for age squared was 1.00. Compared to Hispanics, several non-Hispanic racial groups had significantly elevated hazard ratios for fatal opioid overdose including Whites (HR = 2.52, CI: 2.21, 2.88); Others (HR = 2.09, CI: 1.61, 2.72); and American Indians and Alaskan Natives (HR = 1.88, CI: 1.35, 2.62). In univariate and partially adjusted models Blacks had increased hazard rates (HR = 1.37, CI: 1.16, 1.60) and (HR = 1.44, CI: 1.22, 1.69), respectively, although those rates became lower than 1 after further adjusting for SES in the final model (HR = 0.81, CI: 0.68, 0.96). A strong protective effect was seen in all models for Asian and Pacific Islanders including the final model (HR = 0.55, CI: 0.37, 0.80). Compared to women, men were at greater risk of fatal opioid overdose (HR = 1.61, CI: 1.50 to 1.72).

Compared to people without disabilities, those who were disabled had a statistically elevated risk of fatal opioid overdose (HR = 2.80, CI: 2.59, 3.03). Compared to married people, those who never married had an elevated HR for opioid-related mortality (1.71, CI: 1.55, 1.89) as did people who were widowed (HR = 2.44, CI: 2.03, 2.95); separated (HR = 2.16, CI: 1.82, 2.56); and divorced (HR = 2.19, CI: 1.99, 2.42). People who were unemployed had higher HRs than those who were employed (HR = 2.46, CI: 2.17, 2.79).

In the final model, compared to people with master or doctoral degrees, those with bachelor degrees only had no statistically significant difference in risk (HR = 1.17, CI: 0.93, 1.47) with statistically significant elevated HRs among those with attainment of a High School diploma or GED only (HR = 2.48, CI: 2.00, 3.06), who did not complete High School (HR = 2.26, CI: 1.81, 2.82), and some college or an Associate Degree (HR = 2.63, CI: 1.84, 2.79). Compared to non-citizens, U.S. citizens had elevated risk (HR = 4.62, CI: 3.48, 6.14). Compared to people who owned a home with a mortgage, HRs for people in other housing were higher including those who owned a home without a mortgage (HR = 1.20, CI: 1.09, 1.33) or rented (HR = 1.36, CI: 1.25, 1.48). Urban residents were more likely than rural residents to die from opioid overdoses (HR = 1.46, CI: 1.34, 1.59). Compared to people with health insurance, those who were uninsured had a significantly higher HR for fatal opioid overdose (HR = 1.30, CI: 1.20, 1.41). Compared to people who were not incarcerated at the time of their 2008 ACS survey, those who were incarcerated had a statistically elevated HR for opioid-related mortality (HR = 2.70, CI: 1.91, 3.81).

Compared to people who lived in households at 500% above the poverty line or more, those living in less affluent households had statistically significantly higher opioid mortality HRs, with the highest HR among people in households below the poverty line (HR = 1.36, CI: 1.20, 1.54). Compared to residents of the West North Central Census division, risk was higher for those in Mountain (HR = 1.58, CI: 1.33, 1.88); South Atlantic (HR = 1.29, CI: 1.11, 1.50); East North Central (HR = 1.27, CI: 1.09, 1.48); Mid Atlantic (HR = 1.25, CI: 1.06, 1.47) and Pacific (HR = 1.19, CI: 1.01, 1.40) Census divisions.

## Discussion

This nationally representative MDAC observational study provides new insights into relationships between SES and opioid-related mortality. A principal finding was that the risk of fatal

**Table 2. Hazard ratios and confidence limits, opioid overdose deaths, 2008–2015, Mortality Disparities in American Communities (MDAC) Study.**

Attribute	Category	Univariate Models		Partially Adjusted Models <sup>a</sup>		Final Model <sup>b</sup>	
		HR	95% CI	HR	95% CI	HR	95% CI
Age (Years)							
	Continuous	1.12***	(1.11, 1.14)	1.13***	(1.11, 1.14)	1.18***	(1.16, 1.20)
Age Squared (Years)							
	Continuous	1.00***	(1.00, 1.00)	1.00***	(1.00, 1.00)	1.00***	(1.00, 1.00)
Race/Ethnicity†							
	Hispanic	Ref		Ref		Ref	
	Black	1.37***	(1.16, 1.60)	1.44***	(1.22, 1.69)	0.81*	(0.68, 0.96)
	Asian and Pacific Islander	0.33***	(0.23, 0.48)	0.34***	(0.23, 0.49)	0.55**	(0.37, 0.80)
	American Indian/Alaskan Native	3.44***	(2.50, 4.75)	3.60***	(2.61, 4.97)	1.88***	(1.35, 2.62)
	White	2.40***	(2.12, 2.71)	2.62***	(2.31, 2.96)	2.52***	(2.21, 2.88)
	Other	2.87***	(2.22, 3.71)	3.17***	(2.45, 4.10)	2.09***	(1.61, 2.72)
Sex							
	Female	Ref		Ref		Ref	
	Male	1.59***	(1.49, 1.69)	1.55***	(1.45, 1.65)	1.61***	(1.5, 1.72)
Disability							
	Not Disabled	Ref		Ref		Ref	
	Disabled	3.99***	(3.73, 4.26)	5.48***	(5.12, 5.87)	2.80***	(2.59, 3.03)
Marital Status							
	Married	Ref		Ref		Ref	
	Never Married	1.92***	(1.78, 2.08)	2.92***	(2.66, 3.21)	1.71***	(1.55, 1.89)
	Widowed	1.37***	(1.15, 1.63)	4.34***	(3.59, 5.24)	2.44***	(2.03, 2.95)
	Separated	3.70***	(3.14, 4.37)	4.09***	(3.47, 4.83)	2.16***	(1.82, 2.56)
	Divorced	3.70***	(3.37, 4.05)	3.63***	(3.31, 3.98)	2.19***	(1.99, 2.42)
Employment							
	Employed	Ref		Ref		Ref	
	Unemployed	3.61***	(3.22, 4.04)	4.19***	(3.73, 4.70)	2.46***	(2.17, 2.79)
	Not in labor force	2.34***	(2.19, 2.51)	4.66***	(4.31, 5.04)	2.46***	(2.25, 2.68)
	Age less than 16 years	0.46***	(0.38, 0.56)	1.62***	(1.28, 2.06)	1.06	(0.83, 1.34)
Educational Attainment							
	Master/ Doctorate	Ref		Ref		Ref	
	Bachelor's Degree	1.43**	(1.13, 1.80)	1.37**	(1.09, 1.73)	1.17	(0.93, 1.47)
	Some College/Associate Degree	3.51***	(2.86, 4.30)	3.71***	(3.02, 4.56)	2.26***	(1.84, 2.79)
	High School/GED only	4.29***	(3.50, 5.26)	4.84***	(3.95, 5.94)	2.48***	(2.00, 3.06)
	Less than High School	2.79***	(2.27, 3.43)	5.78***	(4.65, 7.19)	2.26***	(1.81, 2.82)
Citizenship							
	Noncitizen	Ref		Ref		Ref	
	U.S. Citizen	6.31***	(4.81, 8.28)	4.78***	(3.61, 6.32)	4.62***	(3.48, 6.14)
Housing tenure							
	Own with mortgage	Ref		Ref		Ref	
	Group quarters	3.66***	(3.21, 4.17)	4.45***	(3.87, 5.10)	0.88	(0.64, 1.20)
	Live in house without rent	1.90***	(1.52, 2.39)	2.34***	(2.16, 2.53)	1.21	(0.96, 1.53)
	Own, no mortgage	1.29***	(1.17, 1.42)	1.72***	(1.56, 1.90)	1.20***	(1.09, 1.33)
	Rent	1.93***	(1.79, 2.08)	2.14***	(1.71, 2.69)	1.36***	(1.25, 1.48)
Urban/Rural Residence							
	Rural	Ref		Ref		Ref	
	Urban	1.17***	(1.08, 1.26)	1.39***	(1.28, 1.50)	1.46***	(1.34, 1.59)

(Continued)

Table 2. (Continued)

Attribute	Category	Univariate Models		Partially Adjusted Models <sup>a</sup>		Final Model <sup>b</sup>	
		HR	95% CI	HR	95% CI	HR	95% CI
Health Insurance	Insured	Ref		Ref		Ref	
	Uninsured	2.05***	(1.91, 2.20)	2.09***	(1.94, 2.25)	1.30***	(1.20, 1.41)
Incarceration <sup>‡</sup>	Not incarcerated	Ref		Ref		Ref	
	Incarcerated	5.95***	(5.12, 6.92)	4.95***	(4.22, 5.80)	2.70***	(1.91, 3.81)
Household Poverty	500%-999%	Ref		Ref		Ref	
	300%-499%	1.45***	(1.30, 1.61)	1.59***	(1.43, 1.77)	1.13*	(1.01, 1.26)
	100%-299%	1.82***	(1.65, 2.01)	2.46***	(2.22, 2.72)	1.12*	(1.01, 1.25)
	Less than 100%	3.73***	(3.37, 4.13)	5.57***	(5.00, 6.21)	1.36***	(1.20, 1.54)
	Other	4.37***	(3.74, 5.09)	6.15***	(5.22, 7.24)	0.83	(0.54, 1.29)
Census Division	West North Central	Ref		Ref		Ref	
	New England	1.08	(0.88, 1.32)	1.12	(0.92, 1.37)	1.10	(0.90, 1.35)
	East South Central	1.30**	(1.08, 1.56)	1.36**	(1.13, 1.64)	1.13	(0.94, 1.36)
	West South Central	1.10	(0.93, 1.29)	1.33***	(1.13, 1.58)	1.16	(0.98, 1.37)
	Pacific	1.02	(0.87, 1.19)	1.34***	(1.14, 1.57)	1.19*	(1.01, 1.40)
	Mid Atlantic	1.11	(0.95, 1.30)	1.29**	(1.09, 1.51)	1.25**	(1.06, 1.47)
	East North Central	1.34***	(1.15, 1.56)	1.40***	(1.2, 1.64)	1.27**	(1.09, 1.48)
	South Atlantic	1.17*	(1.01, 1.37)	1.35	(1.16, 1.58)	1.29**	(1.11, 1.50)
	Mountain	1.54***	(1.30, 1.83)	1.71***	(1.44, 2.03)	1.58***	(1.33, 1.88)

\* P < 0.05

\*\* P < 0.01

\*\*\* P < 0.001

† Hispanic ethnicity, non-Hispanic Race.

‡ Incarceration at time of survey

<sup>a</sup>Partially adjusted models adjusted for age variables, non-Hispanic race/Hispanic ethnicity, and sex.

<sup>b</sup>Final model adjusted for age variables, non-Hispanic race/Hispanic ethnicity, sex, disability, marital status, employment, education, citizenship, housing tenure, rural/nonrural, health insurance, incarceration, household poverty, and census division.

Abbreviations: HR: Hazard Ratio, CI: Confidence Interval

Statistics are based on weighted data.

DRB release numbers: CBDRB-FY19-301, CBDRB-FY19-302, CBDRB-FY19-348, CBDRB-FY19-555

<https://doi.org/10.1371/journal.pone.0227966.t002>

opioid overdose was greater among people in low compared to high SES strata. Economic deprivation is a risk factor for opioid overdoses in the United States and contributes to patterns of declining life expectancy that differ from most developed countries. [22] As previously reported, affected demographic groups included adolescent, young and middle-aged adults, [23] Whites, American Indians and Alaskan Natives, people of unspecified race, and men. [24] These findings may be of use in developing targeted efforts to prevent fatal opioid overdoses. [25, 26, 27]

Compared to Hispanics, Whites had the highest HRs for opioid overdose death. This disparity, affecting the largest U.S. racial group, [5] has been attributed to socioeconomic despair [4] and limited opportunity in distressed U.S. communities [28] Other explanations U.S. policy priorities for health care, healthy behaviors, and the physical and social environment.

Other countries with higher life expectancy are outperforming the United States with respect to education, child poverty, and other measures of well-being [9]. American Indians and Alaskan Natives were also at risk for opioid fatality. While Asian and Pacific Islander and Black race were both protective in the most adjusted final model, the latter result should be interpreted with caution. In contrast to the protective effect in the final model for Black race that adjusted for 10 SES risk factors, less adjusted models showed significantly elevated HRs of opioid overdose fatality among Blacks. If SES partially mediated the effect of race in the final model, then interventions that impact SES, such as improving education, may have among their many advantages, the ability to help decrease opioid overdoses and associated racial disparities. [25–28] Furthermore, although the opioid epidemic has been most acute in some areas with low percentage Black populations, [7] (e.g., Appalachia, New England, the Midwest, and Mountain states), the recent shift toward a more urban centered opioid overdose epidemic [8] and high opioid overdose fatality rates in other areas with sizeable Black populations (e.g., Southeastern U.S.) could place Blacks at risk moving forward.

People who were disabled had almost three times higher risk of death from opioid overdose than those without a disability, likely reflecting use of opioid analgesics to treat chronic pain. In 2016, CDC published guidelines to assist prescribers in weighing the benefits and risks of opioid therapy for chronic pain. [29] In 2019, the guidelines were evaluated by a consensus panel [30] and the CDC published a perspective [31] on measures to prevent misapplications of the guidelines that can cause harm. Examples include inflexible application of dosage and duration thresholds, abrupt tapering of opioid dosages, drug discontinuation, or dismissal of patients from care. Misapplication of the guidelines to other patient populations is another concern. This includes patients with pain at end-of-life, from cancer, acute surgical recovery, sickle cell crises. Application of chronic pain dosage guidelines when prescribing opioid agonists to treat opioid use disorder can also cause harm. A consensus report highlights national gaps in evidence-based care for opioid use disorder that can save lives. [32] A need exists for empathetic chronic pain management such that non-opioid treatment is provided to the need for opioids, while taking into consideration the risks associated with each type of treatment. When patients agree to taper the dose of opioids, it is helpful for the pace to be individualized and gradual, to minimize withdrawal symptoms. [32] Further research on alternative chronic pain management strategies could point to interventions that lower opioid overdose mortality among patients at risk for opioid use disorder because of their medical comorbidities. [33]

Compared to people who were married, those who were divorced, separated or widowed had higher risk of opioid overdose death, confirming previous associations with fatal opioid overdose. [10, 34] Although the reason for this finding is unclear, behavioral, physical, and economic benefits of having a spouse could confer health benefits. [35] Being in a marital relationship or other domestic partnership may limit time spent alone or social isolation that predisposes to fatal opioid overdose. [35] Research on beneficial effects of interpersonal connection with respect to opioid use disorder could uncover potential interventions to build community resilience to the opioid crisis.

As in previous U.S. studies, people who were unemployed were at greater risk of dying from an opioid overdose compared to the employed [24]. In the U.S., when economic shocks cause rising unemployment, increased risk of opioid-related mortality is seen [36]. In disadvantaged communities, manual labor occupations with higher injury risk are often the most available employment opportunities. Occupational injuries can lead to chronic painful conditions, disability, unemployment and resulting use of opioid analgesics. [37] In one study, family members retrospectively suggested that individual predilection toward unemployment may have contributed to their decedents fatal opioid overdose. [38]. The effectiveness of outreach

efforts could be improved with better understanding of the interconnections between unemployment and risk of fatal opioid overdose [6].

People with less than a four-year college degree had elevated HRs for opioid overdose mortality compared to those with graduate degrees. This is consistent with a previous studies of nonmedical opioid use including nationwide surveys of adolescents and young adults, [39, 40] and studies in smaller areas [10]. This increase in risk of opioid misuse among people with low educational attainment may partially reflect downstream consequences such as less access to stable employment opportunities. [36]

Non-citizens were at lower risk of opioid overdose mortality than citizens. Explanations may include NDI artifacts related to nativity [41], less intensive marketing, or access to opioids among non-citizens. [2] Health affirming values placed on social mobility and family cohesion within traditional [42, 43] or immigrant communities [44] may also mitigate economic stressors that contribute to depression and substance abuse. [42, 43, 44] Cultivating networks of support and resilience within communities affected by the opioid epidemic could help to prevent fatal overdoses in the United States.

Compared to people who owned a house with a mortgage, those who rented were at increased risk of fatal opioid overdose. This finding is consistent with other evidence of health disparities by housing tenure [45–47]. Injected drug use is more frequently reported among people living in unstable housing situations. [48] A study of housing relocation in Atlanta suggest that drug use wains when people move from these settings to neighborhoods with more economic advantage. [49] Authors of the Atlanta study recommended research on barriers that prevent people who use substances from obtaining housing in less disadvantaged neighborhoods. Campaigns to enhance quality of life in less affluent housing neighborhoods may also have merit. An unexpected finding of the present study was that homeowners without mortgages had elevated risk of opioid overdose death compared to those with mortgages. One plausible explanation is that pressure to make scheduled mortgage payments provides routine structure in daily life that discourages opioid misuse.

Based on the Census Bureau definition of rural versus nonrural, in which less than one quarter of the population lived in rural areas, nonrural residents were at 45% greater risk of an opioid fatality than rural residents. This contrasts with other studies in which more rapid increases in prescription opioid mortality rates were reported in rural than nonrural areas early in the opioid epidemic. [50] Higher opioid overdose death rates were also reported in rural states, using a broad definition of rurality. [8] Our finding is however consistent with recent national data [51] showing higher opioid poisoning in urban areas, including from heroin and synthetic opioids, with higher rates of deaths in rural areas from semisynthetic opioids (e.g., oxycodone, hydrocodone, and codeine). A recent study in 17 states indicated that economic disadvantage was a risk factor for prescription opioid overdose death regardless of urbanicity, however economic disadvantage played a larger role in heroin overdose deaths in urban than rural neighborhoods [52]. A national survey found that urban adults were more likely to engage in prescription opioid misuse compared to rural adults. [53] Differences in opioid fatality risk across census divisions in this report were less pronounced than those reported at the state-level [54]. The dispersed geography of opioid overdose deaths in the United States poses an intervention challenge, with variation in rates and trends across jurisdictions influenced by population density, [52] opioids circulating within the community, [53–56] and area-level economic distress. [52]

Risk of death from opioid overdose was associated with not having health insurance. Opioid addiction often occurs amid economic and health problems that can lead to un-insurance [57] Affected U.S. population subgroups are heterogeneous. Tailored responses are therefore needed to deliver appropriate mental health, substance abuse, and social services. [58] Affected

groups include childbearing women and prenatally exposed infants, [59] those at-risk for or with a history of incarceration [60], homeless people, [48] and people living with chronic pain [55, 56]. As responses to the opioid epidemic scale-up to address effects of lack of insurance, training of prescribers can help them to distinguish medical needs from situations in which opioids are likely to be diverted for non-medical use. [24] Provider education can also maximize harm reduction (e.g. naloxone co-prescribing in the context of pain treatment). [32]

Compared to non-incarcerated people, those who were incarcerated were at increased risk of opioid mortality. A need exists for medical and behavioral opioid use disorder therapy during and after incarceration. [60] Lack of access to opioids during incarceration can cause tolerance to diminish, leaving recently incarcerated people susceptible to overdose if they use doses similar to those prior to their incarceration. In Washington State during the 2000s, for example, fatal overdose was the leading cause of death in the 30 days after release. [61] Increased exposure to fentanyl contributes to an emerging pattern of post-incarceration opioid overdose fatality, with longer median time from release fatal overdose. [62] This is not due solely to reduced tolerance but also to increased drug lethality when a previously incarcerated person does encounter (mostly illicit) fentanyl. [62] Quality transition of care for people with opioid use disorders before and after prison release could prevent fatal overdoses in this population. [60]

Consistent with other studies of SES and opioid overdose mortality, [11, 63] compared to people from the most affluent households, those living under the poverty line had higher risk of fatal opioid overdose. Some experts [64] recommend interventions that include treatment of people with opioid use disorder in conjunction with long-term efforts to reduce the opioid supply. [65] Others recommend using a social determinants of health framework to address causes of drug demand, such as loss of opportunity. [2]

This study has strengths that include the nationally representative survey of both children and adults, weighting to adjust for underrepresented groups, the prospective study design, and detailed self-reported SES data. Limitations include potential misclassification of mortality on death certificates, [66] absence of data on psychiatric diagnoses and access to naloxone, and the ascertainment of time-varying measures (e.g., employment, health insurance) only at baseline, up to 7 years before death. Future studies can build on our findings with novel or more detailed SES predictors. In summary, this study provides insights into relationships between SES and U.S. opioid overdose mortality. While opioid fatalities occurred across SES strata, they were concentrated in lower SES groups. These SES attribute specific findings may facilitate the design of opioid overdose prevention, treatment, and rehabilitation programs. [26]

**Access to Data:** The authors of the present study had no special access privileges in accessing MDAC which other interested researchers would not have. In compliance with privacy protection requirements of U.S. Code Title 13, data access was obtained by submitting a research proposal form to the MDAC Steering Committee. [12] Data were accessed with Census Bureau analyst assistance rather than at a Research Data Center, the two processes available to all investigators to access the full MDAC dataset.

**Funding:** MDAC is funded by National Heart, Lung, and Blood Institute and National Institute on Aging agreements with the Census Bureau.

**Census Bureau Disclaimer:** This paper is released to inform interested parties of research and encourage discussion. Views expressed on statistical, methodological, technical, or operational issues are those of the authors and not necessarily the U.S. Census Bureau. Results were reviewed by the Census Bureau's Disclosure Review Board (DRB) to prevent disclosure of confidential information. DRB releases: CBDRB-FY19-301, CBDRB-FY19-302, CBDRB-FY19-304, CBDRB-FY19-348, CBDRB-FY19-555. **NIH Disclaimer:** The views expressed in this manuscript are those of the authors and do not necessarily represent the views of the National



Heart, Lung, and Blood Institute; the National Institute of Mental Health; the National Institute on Drug Abuse; the National Institutes of Health; or the U.S. Department of Health and Human Services.

## Acknowledgments

We thank Sean Coady, Matthew Neiman and Norman Johnson for their efforts to establish MDAC dataset.

## Author Contributions

**Conceptualization:** Sean F. Altekruise, William C. Altekruise.

**Data curation:** Candace M. Cosgrove, William C. Altekruise.

**Formal analysis:** Candace M. Cosgrove, Richard A. Jenkins, Carlos Blanco.

**Funding acquisition:** Sean F. Altekruise.

**Investigation:** Sean F. Altekruise.

**Methodology:** Sean F. Altekruise, Candace M. Cosgrove.

**Project administration:** Sean F. Altekruise.

**Resources:** Candace M. Cosgrove.

**Software:** Candace M. Cosgrove.

**Supervision:** Richard A. Jenkins, Carlos Blanco.

**Validation:** Candace M. Cosgrove, William C. Altekruise.

**Visualization:** Sean F. Altekruise, Candace M. Cosgrove, William C. Altekruise, Carlos Blanco.

**Writing – original draft:** Sean F. Altekruise, Candace M. Cosgrove, William C. Altekruise.

**Writing – review & editing:** Sean F. Altekruise, Candace M. Cosgrove, William C. Altekruise, Richard A. Jenkins, Carlos Blanco.

## References

1. Hedegaard H, Miniño AM, Warner M. Drug Overdose Deaths in the United States, 1999–2017. NCHS Data Brief. 2018; 329: 1–8.
2. Dasgupta N, Beletsky L, Ciccarone D. Opioid Crisis: No Easy Fix to Its Social and Economic Determinants. *Am J Public Health*. 2018; 108: 182–186. <https://doi.org/10.2105/AJPH.2017.304187> PMID: 29267060
3. Dowell D, Arias E, Kochanek K, Anderson R, Guy GP Jr, Losby JL, et al. Contribution of Opioid-Involved Poisoning to the Change in Life Expectancy in the United States, 2000–2015. *JAMA*. 2017; 318: 1065–1067. <https://doi.org/10.1001/jama.2017.9308> PMID: 28975295
4. Case A, Deaton A. "Mortality and Morbidity in the 21st Century." *Brookings Papers on Economic Activity*, Spring 2017.
5. Masters RK, Tilstra AM, Simon DH. Explaining recent mortality trends among younger and middle-aged White Americans. *Int J Epidemiol*. 2018; 47: 81–88. <https://doi.org/10.1093/ije/dyx127> PMID: 29040539
6. Muennig PA, Reynolds M, Fink DS, Zafari Z, Geronimus AT. America's Declining Well-Being, Health, and Life Expectancy: Not Just a White Problem. *Am J Public Health*. 2018; 108: 1626–1631. <https://doi.org/10.2105/AJPH.2018.304585> PMID: 30252522
7. Ruhm CJ. Geographic Variation in Opioid and Heroin Involved Drug Poisoning Mortality Rates. *Am J Prev Med*. 2017; 53: 745–753. <https://doi.org/10.1016/j.amepre.2017.06.009> PMID: 28797652
8. Hedegaard H, Miniño AM, Warner M. Urban–rural Differences in Drug Overdose Death Rates, by Sex, Age, and Type of Drugs Involved, 2017. NCHS Data Brief 2019; No. 345. PMID: 31442197

9. Woolf SH, Schoomaker H. Life Expectancy and Mortality Rates in the United States, 1959–2017. *JAMA*. 2019; 322(20):1996–2016 <https://doi.org/10.1001/jama.2019.16932> PMID: 31769830
10. Martins SS, Sampson L, Cerdá M, Galea S. Worldwide Prevalence and Trends in Unintentional Drug Overdose: A Systematic Review of the Literature. *Am J Public Health* 2015; 105: 2373–2393. <https://doi.org/10.2105/AJPH.2015.302843a> PMID: 26451757
11. Lanier WA, Johnson EM, Rolfs RT, Friedrichs MD, Grey TC. Risk factors for prescription opioid-related death, Utah, 2008–2009. *Pain Med*. 2012; 13: 1580–1589. <https://doi.org/10.1111/j.1526-4637.2012.01518.x> PMID: 23137228
12. Monnat SM. Factors Associated With County-Level Differences in U.S. Drug-Related Mortality Rates. *Am J Prev Med*. 2018; 54: 611–619. <https://doi.org/10.1016/j.amepre.2018.01.040> PMID: 29598858
13. U. S. Census Bureau. American Community Survey. Available from: <https://www.census.gov/acs>
14. Bohnert ASB, Ilgen MA. Understanding Links among Opioid Use, Overdose, and Suicide. *NEJM* 2019; 380: 71–79. <https://doi.org/10.1056/NEJMra1802148> PMID: 30601750
15. U.S. Census Bureau. Mortality Disparities in American Communities (MDAC). Available from: <https://www.census.gov/mdac>
16. Centers for Disease Control and Prevention, National Center for Health Statistics. National Death Index. Available from: <https://www.cdc.gov/nchs/ndi/index.htm>
17. International Classification of Diseases, 10th Revision (ICD-10). Stylus Publishing, LLC, 22883 Quick-silver Drive, P.O. Box 605, Herndon, VA 20172–605
18. Cox DR. Regression models and life-tables. *J R Stat Soc Ser B (Methodol)*. 1972; 34: 187–220.
19. Meara ER, Richards S, Cutler DM. The gap gets bigger: changes in mortality and life expectancy, by education, 1981–2000. *Health Aff (Millwood)*. 2008; 27: 350–360.
20. Ratcliffe M, Burd C, Holder K, Fields A. Defining Rural at the U.S. Census Bureau. American Community Survey and Geography Brief. December 2018. Available from: <https://www.census.gov>
21. Census Bureau. Census Regions and Divisions of the United States. Available from: <https://www.census.gov>
22. Ho JY, Hendi AS. Recent trends in life expectancy across high income countries: retrospective observational study. *BMJ*. 2018; 362: k2562 <https://doi.org/10.1136/bmj.k2562> PMID: 30111634
23. Hedegaard H, Warner M, Minino AM. Drug Overdose Deaths in the United States, 1999–2015. *NCHS Data Brief*. 2017; 273: 1–8.
24. Han B, Compton WM, Blanco C, Crane E, Lee J, Jones CM. Prescription Opioid Use, Misuse, and Use Disorders in U.S. Adults: 2015 National Survey on Drug Use and Health. *Ann Intern Med*. 2017; 167: 293–301. <https://doi.org/10.7326/M17-0865> PMID: 28761945
25. Stoicea N, Costa A, Periel L, Uribe A, Weaver T, Bergese SD. Current perspectives on the opioid crisis in the US healthcare system: A comprehensive literature review. *Medicine (Baltimore)*. 2019; 98: e15425. <https://doi.org/10.1097/MD.00000000000015425> PMID: 31096439
26. Blanco C, Volkow ND. Management of opioid use disorder in the USA: present status and future directions. *Lancet*. 2019; 393: 1760–1772. [https://doi.org/10.1016/S0140-6736\(18\)33078-2](https://doi.org/10.1016/S0140-6736(18)33078-2) PMID: 30878228
27. Abrecht CR, Brovman EY, Greenberg P, Song E, Rathmell JP, Urman RD. A Contemporary Medicolegal Analysis of Outpatient Medication Management in Chronic Pain. *Anesth Analg*. 2017; 125: 1761–1768. <https://doi.org/10.1213/ANE.0000000000002499> PMID: 29049120
28. Economic Innovation Group. Escape Velocity: How elite communities are pulling away in the 21st century race for jobs, businesses, and human capital. Available from: [www.eig.org](http://www.eig.org).
29. Dowell D, Haegerich TM, Chou R. CDC Guideline for Prescribing Opioids for Chronic Pain—United States, 2016. *MMWR. Recommendations and Reports*. 65:1;1–49. <https://doi.org/10.15585/mmwr.rr6501e1> PMID: 26987082
30. Kroenke K, Alford DP, Argoff C, Canlas B, Covington E, Frank JW, et al. Challenges with Implementing the Centers for Disease Control and Prevention Opioid Guideline: A Consensus Panel Report. *Pain Med*. 2019; 20:724–735. <https://doi.org/10.1093/pm/pny307> PMID: 30690556
31. Dowell D, Haegerich T, Chou R. No Shortcuts to Safer Opioid Prescribing. *N Engl J Med*. 2019; 380:2285–2287. <https://doi.org/10.1056/NEJMp1904190> PMID: 31018066
32. National Academies of Sciences, Engineering, and Medicine. Medications for Opioid Use Disorder Save Lives. Washington, DC: The National Academies Press. 2019.
33. Bachhuber MA, Saloner B, Cunningham CO, Barry CL. Medical cannabis laws and opioid analgesic overdose mortality in the United States, 1999–2010. *JAMA Intern Med*. 2014; 174: 1668–73. <https://doi.org/10.1001/jamainternmed.2014.4005> PMID: 25154332

34. Day BF, Rosenthal GL. Social isolation proxy variables and prescription opioid and benzodiazepine misuse among older adults in the U.S.: A cross-sectional analysis of data from the National Survey on Drug Use and Health, 2015–2017. *Drug Alcohol Depend.* 2019; 204: 107518. <https://doi.org/10.1016/j.drugalcdep.2019.06.020> PMID: 31494444
35. Lo CC, Cheng TC, Simpson GM. Marital status and work-related health limitation: a longitudinal study of young adult and middle-aged Americans. *Int J Public Health.* 2016; 61: 91–100.
36. McLean K. "There's nothing here": Deindustrialization as risk environment for overdose. *Int J Drug Policy.* 2016; 29: 19–26. <https://doi.org/10.1016/j.drugpo.2016.01.009> PMID: 26868674
37. Hollingsworth A, Ruhm CJ, Simon K. Macroeconomic conditions and opioid abuse. *J Health Econ.* 2017; 56: 222–233. <https://doi.org/10.1016/j.jhealeco.2017.07.009> PMID: 29128677
38. Johnson EM, Lanier WA, Merrill RM, Crook J, Porucznik CA, Rolfs RT, et al. Unintentional prescription opioid-related overdose deaths: description of decedents by next of kin or best contact, Utah, 2008–2009. *J Gen Intern Med.* 2013; 28: 522–529. <https://doi.org/10.1007/s11606-012-2225-z> PMID: 23070654
39. Martins SS, Kim JH, Chen LY, Levin D, Keyes KM, Cerdá M, et al. Nonmedical prescription drug use among US young adults by educational attainment. *Soc Psychiatry Psychiatr Epidemiol.* 2015; 50: 713–724. <https://doi.org/10.1007/s00127-014-0980-3> PMID: 25427665
40. Schepis TS, Teter CJ, McCabe SE. Prescription drug use, misuse and related substance use disorder symptoms vary by educational status and attainment in U.S. adolescents and young adults. *Drug Alcohol Depend.* 2018; 189: 172–177. <https://doi.org/10.1016/j.drugalcdep.2018.05.017> PMID: 29960204
41. Arias E, Eschbach K, Schauman W, Backlund EL, Sorlie PD. The Hispanic Mortality Advantage and Ethnic Misclassification on US Death Certificates. *Am J Public Health.* 2010; 100: S171–177. <https://doi.org/10.2105/AJPH.2008.135863> PMID: 19762677
42. Caetano R, Vaeth PA, Mills B, Canino G. Employment status, depression, drinking, and alcohol use disorder in Puerto Rico. *Alcohol Clin Exp Res.* 2016; 40: 806–815. <https://doi.org/10.1111/acer.13020> PMID: 27038594
43. Caetano R, Vaeth PA, Canino G. Family cohesion and pride, drinking and alcohol use disorder in Puerto Rico. *Am J Drug Alcohol Abuse.* 2017; 43: 87–94. <https://doi.org/10.1080/00952990.2016.1225073> PMID: 27808561
44. Cano MA, Sánchez M, Rojas P, Ramírez-Ortiz D, Polo KL, Romano E, et al. Alcohol Use Severity among Adult Hispanic Immigrants: Examining the Roles of Family Cohesion, Social Support, and Gender. *Subst Use Misuse.* 2018; 53: 668–676. <https://doi.org/10.1080/10826084.2017.1356333> PMID: 28910173
45. Ellaway E, Macintyre S. Does housing tenure predict health in the UK because it exposes people to different levels of housing-related hazards in the home or its surroundings? *Health & Place.* 1998; 4: 141–150.
46. Miranda PY, Reyes A, Hudson D, Yao N, Bleser WK, Snipes SA, et al. Reports of self-rated health by citizenship and homeownership, United States 2000–2010. *Prev Med.* 2017; 100: 3–9. <https://doi.org/10.1016/j.ypmed.2017.03.006> PMID: 28322883
47. Willison C. Shelter from the Storm: Roles, responsibilities, and challenges in United States housing policy governance. *Health Policy.* 2017; 121: 1113–1123. <https://doi.org/10.1016/j.healthpol.2017.08.002> PMID: 28851590
48. Wagner KD, Valente TW, Casanova M, Partovi SM, Mendenhall BM, Hundley JH, et al. Evaluation of an overdose prevention and response training programme for injection drug users in the Skid Row area of Los Angeles, CA. *Int J Drug Policy.* 2010; 21: 186–193. <https://doi.org/10.1016/j.drugpo.2009.01.003> PMID: 19268564
49. Linton SL, Haley DF, Hunter-Jones J, Ross Z, Cooper HLF. Social causation and neighborhood selection underlie associations of neighborhood factors with illicit drug-using social networks and illicit drug use among adults relocated from public housing. *Soc Sci Med.* 2017; 185: 81–90. <https://doi.org/10.1016/j.socscimed.2017.04.055> PMID: 28554162
50. Paulozzi LJ, Xi Y. Recent changes in drug poisoning mortality in the United States by urban-rural status and by drug type. *Pharmacoepidemiol. Drug Saf.* 2008; 17: 997–1005. <https://doi.org/10.1002/pds.1626> PMID: 18512264
51. Rudd RA, Seth P, David F, Scholl L. Increases in drug and opioid-involved overdose deaths—United States, 2010–2015. *Morb. Mortal. Rep. Surveill. Summ.*, 2016; 65: 1445–1452.
52. Pear VA, Ponicki WR, Gaidus A, Keyes KM, Martins SS, Fink DS, et al. Urban-rural variation in the socioeconomic determinants of opioid overdose. *Drug Alcohol Depend.* 2019; 195: 66–73. <https://doi.org/10.1016/j.drugalcdep.2018.11.024> PMID: 30592998

53. Rigg KK, Monnat SM. Urban vs. rural differences in prescription opioid misuse among adults in the United States: informing region specific drug policies and interventions. *Int J Drug Policy*. 2015; 26: 484–491. <https://doi.org/10.1016/j.drugpo.2014.10.001> PMID: 25458403
54. Kiang MV, Basu S, Chen J, Alexander MJ. Assessment of Changes in the Geographical Distribution of Opioid-Related Mortality Across the United States by Opioid Type, 1999–2016. *JAMA Network Open*. 2019; 2: e190040. <https://doi.org/10.1001/jamanetworkopen.2019.0040> PMID: 30794299
55. Smith DE. Medicalizing the Opioid Epidemic in the U.S. in the Era of Health Care Reform. *J Psychoactive Drugs*. 2017; 49: 95–101. <https://doi.org/10.1080/02791072.2017.1295334> PMID: 28296623
56. Preuss CV, Kalava A, King KC. Prescription of Controlled Substances: Benefits and Risks. *StatPearls [Internet]*. 2019. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK537318/>
57. Orgera K, Tolbert J. Key Facts about Uninsured Adults with Opioid Use Disorder. Available from: <https://www.kff.org>,
58. Centers for Disease Control and Prevention. CDC in Action: 2018. Response to the Opioid Crisis. Available from: [www.cdc.gov](http://www.cdc.gov).
59. Kroelinger CD, Rice ME, Cox S, Hickner HR, Weber MK, Romero L, et al. State Strategies to Address Opioid Use Disorder Among Pregnant and Postpartum Women and Infants Prenatally Exposed to Substances, Including Infants with Neonatal Abstinence Syndrome. *MMWR Morb Mortal Wkly Rep*. 2019; 68:777–783. <https://doi.org/10.15585/mmwr.mm6836a1> PMID: 31513558
60. Hagan J, Foster H. Imprisonment, opioids and health care reform: The failure to reach a high-risk population. *Prev Med*. 2019: 105897. <https://doi.org/10.1016/j.ypmed.2019.105897> PMID: 31765710
61. Binswanger IA, Stern MF, Yamashita TE, Mueller SR, Baggett TP, Blatchford PJ. Clinical risk factors for death after release from prison in Washington State: a nested case–control study. *Addiction*. 2016; 111, 499–510 <https://doi.org/10.1111/add.13200> PMID: 26476210
62. Brinkley-Rubinstein L, Macmadu A, Marshall BDL, Heise A, Ranapurwala SI, Rich JD, et al. Risk of fentanyl-involved overdose among those with past year incarceration: Findings from a recent outbreak in 2014 and 2015. *Drug Alcohol Depend*. 2018; 185: 189–191. <https://doi.org/10.1016/j.drugalcdep.2017.12.014> PMID: 29459328
63. Imtiaz S, Probst C, Rehm J. Substance use and population life expectancy in the USA: Interactions with health inequalities and implications for policy. *Drug Alcohol Rev*. 2018; 37 Suppl 1: S263–S267. <https://doi.org/10.1111/dar.12616> PMID: 29737615
64. Pitt AL, Humphreys K, Brandeau ML. Modeling Health Benefits and Harms of Public Policy Responses to the US Opioid Epidemic. *Am J Public Health*. 2018; 108: 1394–1400. <https://doi.org/10.2105/AJPH.2018.304590> PMID: 30138057
65. Bozinoff N, Anderson BJ, Bailey GL, Stein MD. Correlates of stigma severity among persons seeking opioid detoxification. *J Addict Med*. 2018; 12: 19–23. <https://doi.org/10.1097/ADM.0000000000000355> PMID: 28885299
66. Smith Sehdev AE, Hutchins GM. Problems with proper completion and accuracy of the cause-of-death statement. *Arch Intern Med*. 2001; 161: 277–84. <https://doi.org/10.1001/archinte.161.2.277> PMID: 11176744

**Oversight and Investigations Subcommittee Hearing**  
**“A Threat to Every Community: Assessing the Safety, Health, and Economic  
Consequences of President Biden’s Border Policies”**  
**House Energy and Commerce**  
**2322 Rayburn House Office Building**  
**January 17, 2024**

Statement for the Record

Regina M. LaBelle  
Director, Addiction and Public Policy Initiative  
O’Neill Institute for National and Global Health Law  
Georgetown University Law Center  
Washington, DC

Introduction

Chair Rodgers, Ranking Member Pallone, and Members of the Committee, thank you for the opportunity to provide this statement for the record.

I am Regina LaBelle, and I currently direct the Addiction and Public Policy Initiative at the O’Neill Institute for National and Global Health Law at Georgetown Law. We use the law and policy to promote access to quality addiction treatment, harm reduction, and recovery support services. In addition, I direct and teach in Georgetown University’s Master of Science in Addiction Policy & Practice program, a program training future addiction policy professionals.

In 2021, at the beginning of the Biden-Harris Administration, I was appointed Acting Director of the White House Office of National Drug Control Policy (ONDCP). I oversaw the development of this Administration’s first-year drug policy priorities.<sup>1</sup> During the Obama Administration, I served at ONDCP as Chief of Staff.

The Overdose Crisis

Our nation is amidst an unprecedented drug overdose crisis. In the 12-month period ending in July 2023, the Centers for Disease Control and Prevention (CDC) reported that 106,661 people died of a drug overdose.<sup>2</sup> This number does not begin to reflect the family members and communities left behind; each death is an unspeakable tragedy for our nation. Much more needs to be done to save lives and end this crisis.

---

<sup>1</sup> Executive Office of the President, *The Biden-Harris Administration’s Statement of Drug Policy Priorities for Year One* (2021) <https://www.whitehouse.gov/wp-content/uploads/2021/03/BidenHarris-Statement-of-Drug-Policy-Priorities-April-1.pdf>.

<sup>2</sup> FB Ahmad et al., *Provisional Drug Overdose Death Counts*, National Center for Health Statistics (2023), <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>.

I support Congressional action to create an orderly, humane immigration system; however, the migrant issues we see at the border today are not what is driving the overdose epidemic. Regardless of what Congress does to reform the nation's immigration laws, additional Congressional action is necessary to solve the overdose epidemic. Our nation desperately needs bipartisan action to address the underlying issues driving this crisis: the profits of transnational criminal organizations and untreated addiction.

### Going After the Profits of Transnational Criminal Organizations

To solve this problem, it is critical that we look to the facts and the evidence, rather than the rhetoric. Illicit fentanyl in America today is manufactured largely from precursor chemicals sourced from the People's Republic of China; these chemicals are shipped to Mexico where drug cartels manufacture the illegal fentanyl that we see in America.<sup>3</sup> Contrary to the rhetoric, the vast majority of illegal fentanyl is brought into the country by U.S. citizens,<sup>4 5</sup> not undocumented immigrants. Additionally, the vast majority of illegal fentanyl is brought into the country through ports of entry—not between them. In fact, according to the Cato Institute<sup>6</sup>, just 0.02% of people arrested by Border Patrol for crossing the border illegally possessed any fentanyl at all.

Transnational criminal organizations operate across borders with sophisticated, international business operations. To promote the rule of law and reduce the profit flow from drug trafficking, the United States, together with its international partners, must follow the money.

This means targeting illicit financial transactions that support fentanyl trafficking. This includes investigating, prosecuting, and convicting money launderers who make the illicit drug trade and transnational criminal enterprises financially viable.

### Ending Untreated Addiction

Promoting the rule of law and reducing profits from international drug trafficking is a piece of the solution, but building a public health infrastructure in the U.S. must be the centerpiece of our efforts. If every American with a substance use disorder received the care they need, there would be a dramatically smaller market for their illegal fentanyl. Yet according to a 2022 study, fewer than 28% of individuals with an opioid use disorder received treatment with medications for opioid use disorder (MOUD) within the last year.<sup>7</sup>

---

<sup>3</sup> DEA Intelligence Report, *Fentanyl Flow in the United States*, January 2020, [https://www.dea.gov/sites/default/files/2020-03/DEA\\_GOV\\_DIR-008-20%20Fentanyl%20Flow%20in%20the%20United%20States\\_0.pdf](https://www.dea.gov/sites/default/files/2020-03/DEA_GOV_DIR-008-20%20Fentanyl%20Flow%20in%20the%20United%20States_0.pdf)

<sup>4</sup> United States Sentencing Commission Report, *Quick Facts on Fentanyl Trafficking Offenses*, (2021), [https://www.uscc.gov/sites/default/files/pdf/research-and-publications/quick-facts/Fentanyl\\_FY21.pdf](https://www.uscc.gov/sites/default/files/pdf/research-and-publications/quick-facts/Fentanyl_FY21.pdf)

<sup>5</sup> *Socioeconomic risk factors for fatal opioid overdoses in the United States: Findings from the Mortality Disparities in American Communities Study (MDAC)*, January 2020, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6968850/>

<sup>6</sup> Bier, David J., *Fentanyl Is Smuggled For U.S. Citizens by U.S. Citizens, Not Asylum Seekers*, (2022), <https://www.cato.org/blog/fentanyl-smuggled-us-citizens-us-citizens-not-asylum-seekers>

<sup>7</sup> *Use of Medication for Opioid Use Disorder Among US Adolescents and Adults With Need for Opioid Treatment*, (2019), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8943638/>

At the O’Neill Institute for National and Global Health Law at Georgetown Law, we advocate for a public health approach to addressing substance use, one that spans the continuum of care. The continuum of care includes enhancing evidence-based prevention, improving harm reduction services to prevent risky substance use and reduce overdose deaths, increasing access to quality, evidence-based treatment by reducing barriers to treatment, and increasing access to recovery support services to sustain long-term recovery.

Congress can take action today across the continuum of care to save lives.

### *Prevention*

One area requiring urgent attention is increasing rates of youth overdose deaths. Tragically, at a time of reduced youth substance use, we are seeing increasing mortality rates among adolescents.<sup>8</sup> This same study also noted that, in 2022, 22 young people aged 14 to 18 died each week of a drug overdose. We must treat this issue as the urgent problem it is.

Congress should build on efforts by the Administration to educate young people about the consequences of purchasing what they think are prescription pills online, but are actually pressed pills containing fentanyl. We must also address untreated mental health conditions among adolescents, conditions that often cause young people to seek out pills online.

However, education alone is not enough.

Congress can finally take action to regulate the safety of online platforms. Reform to Section 230 is long overdue. While any reform must protect the First Amendment rights of individuals online, it is time for accountability.

### *Treatment*

I applaud Congress for eliminating the “X-waiver” requirement for buprenorphine prescribing in the FY 2023 omnibus funding measure. This action will, over the long term, be a game changer for treatment access. Nevertheless, eliminating the X-waiver by itself is not enough to close the treatment gap, and buprenorphine is not the only medication for opioid use disorder.

We need broad access to addiction treatment immediately. Arbitrary federal barriers to care are costing American lives. Congress has the ability to take action in three areas:

First, improve access to all forms of medications for opioid use disorder, including methadone. At a time when upwards of 70% of all overdose deaths involve illicit fentanyl<sup>9</sup> increased access

---

<sup>8</sup> Friedman, Joseph, *The Overdose Crisis Among U.S. Adolescents*, 2024, [https://www.nejm.org/doi/full/10.1056/NEJMp2312084?query=featured\\_secondary](https://www.nejm.org/doi/full/10.1056/NEJMp2312084?query=featured_secondary)

<sup>9</sup> Center for Disease Control and Prevention, *Drug Overdose Deaths*, 2021, <https://www.cdc.gov/drugoverdose/deaths/index.html>

to methadone treatment has become an urgent issue. Administrative actions were taken to ease access to methadone treatment during the COVID-19 public health emergency. These actions did not result in increased diversion of methadone, but did provide easier access for individuals with opioid use disorder.<sup>10</sup> Fortunately, the Substance Abuse and Mental Health Services Administration (SAMHSA) has extended these flexibilities.<sup>11</sup> However, more can be done to improve access. For example, Congress is currently considering legislation (Modernizing Opioid Treatment Access Act (MOTAA))<sup>12</sup> that would allow doctors who are board certified in addiction medicine, to prescribe methadone and pharmacies to dispense it. Currently, methadone can only be dispensed at an opioid treatment program. It follows logically that access would improve given the limited number of opioid treatment programs nationwide, and the large number of pharmacies in the U.S.<sup>13</sup>

Second, more should be done to increase access to evidence-based treatment for people who are incarcerated, and upon reentry to the community. Congress is currently considering the Due Process Continuity of Care Act (DPCCA) and the Medicaid Re-Entry Act (MRA).<sup>14 15</sup> The DPCCA would ensure that incarcerated people held pretrial do not lose Medicaid coverage because of an arrest. The MRA would allow Medicaid coverage for incarcerated individuals in the last 30 days prior to their release, thereby improving their access to evidence-based care leading up to and upon reentry. Improving access to evidence-based care in corrections and upon reentry is important given the heightened risk of overdose for individuals who leave jail. Research has shown that overdose is the leading cause of death among people leaving prison<sup>16</sup>, yet MOUD makes recently incarcerated individuals 85%<sup>17</sup> less likely to die. By providing MOUD in corrections and upon reentry, we can help bend the curve of overdose deaths.

Third, Congress can take additional steps to ensure access to buprenorphine. As mentioned previously, removing the X-waiver requirement for buprenorphine prescribing was an important first step. More can be done now by making sure that pharmacies stock buprenorphine. Currently, only 57.9% of pharmacies even stock buprenorphine.<sup>18</sup>

---

<sup>10</sup> Pew Charitable Trusts, *Study Shows Easing Access to Methadone Helps Patients with Opioid Use Disorder*, 2023,

<sup>11</sup> Substance Abuse and Mental Health Services Administration, *Methadone Take-Home Flexibilities Extension Guidance*, 2020, <https://www.samhsa.gov/medications-substance-use-disorders/statutes-regulations-guidelines/methadone-guidance>

<sup>12</sup> Modernizing Opioid Treatment Access Act of 2023, S.644, 118th Congress (2023).

<sup>13</sup> Modernizing Opioid Treatment Access Act of 2023, S.644, 118th Congress (2023).

<sup>14</sup> Due Process Continuity of Care Act of 2023, H.R. 3074, 118th Congress (2023).

<sup>15</sup> Medicaid Reentry Act of 2023, H.R. 2400, 118th Congress (2023).

<sup>16</sup> National Library of Medicine, *Clinical risk factors for death after release from prison in Washington State: A nested case control study*, 2017, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4834273/>

<sup>17</sup> National Library of Medicine, *Does exposure to opioid substitution treatment in prison reduce the risk of death after release? A national prospective observational study in England*, 2017, <https://pubmed.ncbi.nlm.nih.gov/28160345/>

<sup>18</sup> National Library of Medicine, *Pharmacy Availability of Buprenorphine for Opioid Use Disorder Treatment in the US*, 2023, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10220511/#:~:text=Only%2057.9%25%20of%20pharmacies%20reported,pharmacy%20chains%20in%20the%20US.>



Congress should clarify the DEA's Suspicious Orders Reports System (SORS). Too many distributors and pharmacies fear adverse law enforcement action if they dispense too much buprenorphine, and if MOTAA passes, the same will be true for methadone. Distributors and pharmacies should be incentivized to get this critical medication into the hands of patients who have been prescribed it.

### Closing

By taking an all of the above approach, geared at enhancing the rule of law, tackling illicit finance, and building out a robust public health system, Congress can bend the curve of overdose deaths. These are not easy issues with simple answers. With record numbers of overdose deaths, the public is demanding action. We can continue to build on some of the important policy changes that have occurred and tackle both the international aspects of the issue, along with the domestic and community-based approaches that are necessary.

I, like many of you, know people who have been directly affected by this issue. They are calling out for all of us to work together so no one else has to suffer a loss.

Thank you for the opportunity to provide this statement for the record.

---

**Congress of the United States**  
**Washington, DC 20515**

December 11, 2023

The Honorable Joseph Biden  
President of the United States  
The White House  
1600 Pennsylvania Ave NW  
Washington, DC 20500

Dear President Biden:

As you are aware, Mexican cartels pose a deadly threat to the United States. As the greatest criminal drug threat to the U.S., the Mexican cartels are also involved in several other criminal activities, including but not limited to human trafficking, money laundering, and extortion.<sup>1</sup> In recent years, the Mexican cartels are believed to be responsible for a large portion of synthetic opioid trafficking in the U.S., where overdose deaths due to synthetic opioids like fentanyl have skyrocketed. We are very concerned about the Mexican cartels and their presence in the United States and urge you to take action that would limit the cartels' funding and ability to operate within our borders.

Specifically, it has come to our attention that the *Cártel de Jalisco Nueva Generación* (CJNG) has gained power in Mexico and expanded its operations to the U.S. The Department of Justice considers CJNG "to be one of the five most dangerous transnational criminal organizations in the world".<sup>2</sup> The Drug Enforcement Administration (DEA) also believes CJNG is the best-armed criminal organization in Mexico and to be a significant threat to the United States.<sup>3</sup> With a reputation for extreme violence, CJNG is a significant target for the United States government.

CJNG has reportedly expanded its recent operations to include cigarette smuggling and sales in an effort to diversify their operations.<sup>4</sup> We are concerned they could be using the profits from their cigarette smuggling to fund their fentanyl operation in the U.S. This concern is particularly timely given that there is a Food and Drug Administration (FDA) proposed rule in the final stages of agency review that concerns menthol in cigarettes as well as flavored cigars. While it may be well-intentioned, this menthol ban would amount to prohibition and the consequences

---

<sup>1</sup> Congressional Research Service, "Mexico: Organized Crime and Drug Trafficking Organizations", 06/22, <https://crsreports.congress.gov/product/pdf/R/R41576>

<sup>2</sup> U.S. Drug Enforcement Agency, CJNG & Los Cuinis Foreign Narcotics Kingpin Designation Act, 05/19, <https://www.dea.gov/sites/default/files/2019-05/CJNG%20CUINIS%20X%20Chart%20for%20May%202019.pdf>

<sup>3</sup> Congressional Research Service

<sup>4</sup> Milenio, "Cártel del Tabaco incursiona con cigarros hechos en México", 05/22, [Cártel del Tabaco incursiona con cigarros hechos en México - Grupo Milenio](#)

could be more severe than the FDA realizes. It could open huge opportunity for CJNG and other criminal organizations to expand their smuggling of tobacco products within U.S. borders, especially considering the regulated U.S. menthol market is worth approximately \$30 billion. Considering CJNG already has a sophisticated narcotics distribution network across major U.S. cities, it would be relatively easy for them to transition to new illicit cigarette sales if given the opportunity and financial incentive. \_

This issue has also garnered the attention of several Senators, who have penned multiple letters to your Administration raising concerns about CJNG's foray into tobacco. Recently, a bipartisan Senate letter to the U.S. Department of State warned that CJNG's involvement in tobacco sales was a threat to our national security and the public health and requested more information about interagency coordination on this specific matter.<sup>5</sup>

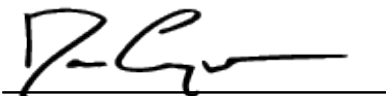
While we are aware of broad interagency efforts between the Department of Justice, Department of Treasury and State Department to take enforcement actions against CJNG, we urge you to look closely at this new source of funding. The emergence of new funding sources via tobacco sales makes it necessary to reconsider the effects that a menthol ban would have on criminal cartel financing. Federal rules, such as the proposed menthol and flavored cigar ban, could provide further financial resources to CJNG and other criminal organizations that would fuel their already brutal war against the United States. The American people can't afford for the cartels to grow more powerful. We've already lost too much.

Sincerely,



---

Carol D. Miller  
Member of Congress



---

Dan Crenshaw  
Member of Congress



---

Brian Babin, D.D.S.  
Member of Congress

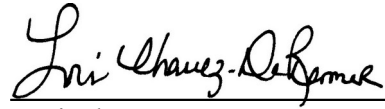
---

<sup>5</sup> Senator Bill Cassidy, "Cassidy, Colleagues Raise Concerns About the National Security Threat of Illicit Tobacco Trafficking", 8/23, [https://www.cassidy.senate.gov/imo/media/doc/illicit\\_tobacco\\_trafficking\\_letter.pdf](https://www.cassidy.senate.gov/imo/media/doc/illicit_tobacco_trafficking_letter.pdf)



---

Andy Biggs  
Member of Congress



---

Lori Chavez-DeRemer  
Member of Congress



---

Juan Ciscomani  
Member of Congress



---

Anthony D'Esposito  
Member of Congress



---

August Pfluger  
Member of Congress



---

Michael Waltz  
Member of Congress

cc: The Honorable Shalanda Young, Director, Office of Management and Budget  
The Honorable Robert Califf, Commissioner, Food and Drug Administration  
The Honorable Alejandro Mayorkas, Secretary, Department of State  
The Honorable Janet Yellen, Secretary, Department of Treasury  
The Honorable Merrick Garland, Attorney General, Department of Justice  
The Honorable Xavier Becerra, Secretary, Department of Health and Human Services

# A DEA agent tracked the source of fentanyl in Mormon country — a Mexican cartel



Vehicles in Arizona head in the direction of St. George, Utah, on Interstate 15. (Salwan Georges/The Washington Post)

By [Kevin Sieff](#)

Dec. 13 at 6:10 a.m.



ST. GEORGE, Utah — The meth was expensive. The federal agents were running

out of money.

They had been buying loads of drugs in undercover operations, trying to trace the pipeline of methamphetamine and fentanyl into this sleepy city of retirees, out-of-town hikers and Mormon churches.

Brady Wilson, one of just two Drug Enforcement Administration agents in southern Utah, begged his bosses for more cash. The case felt big — a window into how Mexican organized crime had penetrated even suburban America.

“It was a gut feeling,” Wilson said. A Mexican cartel, he suspected, had set up shop in St. George.

Wilson, a bald, trim 42-year-old, operated out of an unmarked building, across the street from a car wash. He looked around St. George, a city of about 100,000 surrounded by jagged red-rock cliffs and waves of cookie-cutter suburbs. Few places in America would make a more incongruous outpost for Mexican drug traffickers.

Brady Wilson, a former Drug Enforcement Administration agent, looks out over the valley in St. George.  
(Ronda Churchill for The Washington Post)

And yet synthetic drugs had arrived here much as they had in other small cities and rural areas across the United States — abruptly and with immediate, devastating impact. In Utah, fentanyl overdose deaths had increased 300 percent over a three-year period, killing 170 people in 2021, according to the state health department.

Mexican criminal groups had become experts in producing fentanyl and meth across the border. Now, Wilson knew, they were honing their role in retail distribution in the United States, where synthetics had reshaped the geography of drug demand. There was money to be made in places like St. George.

In early 2020, Wilson got his first tip. Someone walked up to the FBI field office in St. George with a claim that appeared to leap from Wilson's subconscious.

"The message was: 'You've got a major player in your area who has significant ties to Mexico.'"

According to the informant, a Mexican man was running a drug distribution ring from a small ranch on the edge of St. George. Wilson and other federal law enforcement officials launched an investigation. They were about to learn how deeply Mexican cartels have penetrated the heartland of America. What follows is based on court documents and information Wilson and several other federal officials shared with The Washington Post.

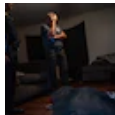
At first, the work was tedious. They conducted stakeouts in strip-mall parking lots. They interviewed detained drug dealers. They weren't getting enough evidence to advance the case.

Then, in 2021, the agents made a breakthrough. They traced a shipment of drugs to Ángel Rubio Quintana, a 41-year-old from Michoacán, Mexico. Deported years earlier, he had returned to southern Utah, where his relatives had a popular fast-food restaurant known for its burritos and carne asada.

The Washington Post followed the fentanyl epidemic from Mexican labs to U.S. streets.



Overview: From Mexican labs to U.S. streets, a lethal pipeline



Washington faltered as fentanyl gripped America

[View all stories](#) ▾

He was a short, chubby man with a goatee. He shepherded his four children around St. George in a used SUV. They posed for photos in front of the mall; in front of their Christmas tree; in front of a flower shop, wearing matching plaid shirts. The agents didn't need to work hard to get his contact information. Rubio sold used cars in front of his in-laws' Mexican restaurant, scrawling his phone number on the windshields.

When agents found out where Rubio was living, Wilson shook his head in disbelief. The man suspected of importing drugs into St. George had moved his family into one of the city's immaculate suburbs, on a street lined with American flags and pickups. It wasn't far from Wilson's own home.

What Wilson needed to learn was how Rubio ran the operation. Could agents build a strong enough case against him to cast a net over the entire trafficking ring?

The evidence trickled in. The first time agents purchased a large load of meth from Rubio, they said, it arrived in a five-pound tub of sour cream called La Crema Mexicana. The agents wondered whether there was a connection between the extended family's restaurant and Rubio's drug trade.

The tub solved one of Wilson's problems — what to call the investigation: Operation Sour Cream.

### **Post Reports: Operation Sour Cream**

Since 2019, the number of Americans killed by fentanyl has jumped 94 percent. Today on "Post Reports," we go inside Operation Sour Cream — and inside the pipeline bringing the deadly drug from Mexican labs to U.S. streets.

Tuesday, December 13, 2022



31 min

 Options



A view of St. George that includes its Mormon temple. (Salwan Georges/The Washington Post)

As a young DEA agent, Wilson had studied the architecture of America's drug war.

Drug trafficking routes through Mexico, he learned, are the product of years of turf wars, shifting alliances and continually refined smuggling techniques. Nearly a century after early opium smugglers lugged their loads across the Rio Grande, Mexico has been carved into criminal fiefdoms. Different cartels own different stretches of the border.



How the U.S. lost a key ally in Mexico as fentanyl took off



The [Sinaloa cartel](#) has risen to become the world's premier fentanyl producer. The group manufactures fentanyl and meth throughout northwestern Mexico, in labs that span the mountains of Culiacán and dot the residential streets of downtown Tijuana. Those drugs are loaded into hidden compartments in cars and trucks and sent across the border into California and Arizona.

What happens once those drugs enter the United States — the pipeline from the border to the user — has been less clear. How involved are cartels in the distribution and sale of their own products? Historically, most dealers don't know whose drugs they're selling.

But with the [explosion of fentanyl](#), which can be pressed into tiny counterfeit pills or mixed into other drugs like cocaine and heroin, the question of how the products arrive at their final destination is of urgent importance. More Americans are dying of drug overdoses than ever before. The tentacles of Mexican criminal organizations are lengthening in the United States, their distribution methods becoming more efficient as their drugs become more dangerous.

## Pounds of fentanyl seized since 2015

In U.S. counties and Mexican municipalities





Wilson had seen the outlet of that pipeline in Seattle, where he got his first job with the DEA in 2009. Mexico’s two biggest criminal organizations, the Sinaloa cartel and the Jalisco New Generation cartel, both operated in the city, ordering up drug shipments directly from their counterparts in Mexico. That phenomenon has continued: From May 23 through Sept. 8 of this year, the Justice Department investigated [35 fentanyl cases](#) with direct links to those two groups.

Wilson noted how both cartels established outposts in Seattle as if they were inaugurating a shadow consulate. The cartels recruited from within immigrant communities, exploiting recently arrived Hondurans, for example, who were pressured to pay back human smugglers by dealing drugs.

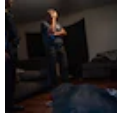
As Wilson settled into St. George, Sinaloa-linked busts were being made in unlikely places, away from major American cities. Trafficking rings were uncovered in western Pennsylvania and Battle Creek, Mich. Authorities found one Sinaloa affiliate using a bootleg phone to operate out of a federal prison in Henderson, N.C.

But Wilson felt good about the St. George assignment. He was a Utah native, looking for a quiet place to live with his young family.

“This is going to be a much slower pace,” he remembers thinking.

Throughout the 2010s, the closest drug cartel outpost to St. George was Las Vegas, about a two-hour drive away. Small-time drug dealers transported modest loads — sometimes just a few ounces — from there to southern Utah.

“Most of our cases were just these local people going to Vegas to pick up an ounce or two, or 100 pills, maybe 200 pills,” Wilson said.



---

In 2015, the DEA published a map of “[Areas of Influence of Major Mexican Transnational Criminal Organizations](#).” St. George wasn’t mentioned — a market not big enough to warrant recognition by the cartels.

But demand for synthetic drugs had increased in southern Utah just as supply had surged in Mexico. St. George had itself boomed; it is now the nation’s fastest-growing metropolitan area. Not long after Wilson arrived in Utah, he and his colleagues were finding fentanyl everywhere — in pillowcases and glove compartments during routine traffic stops, next to the bodies of overdose victims, once in a plastic bag in a Panda Express [bathroom](#).

The drugs that arrived here from Las Vegas were no longer enough. St. George had apparently gotten its first hookup directly to Mexico.

Tyler West, left, and J. Banks of the Utah Highway Patrol look under a car Nov. 1 after making a stop in Sevier, a few hours north of St. George. (Salwan Georges/The Washington Post)

Ángel Rubio was no one's idea of a cartel kingpin. He was illiterate. He was constantly in debt. His drug business was perpetually short-staffed, so he enlisted his teenage son. Even the front for his operation — a 10-acre ranch on the edge of town — gave the appearance of an amateur. The cows kept escaping, wandering into the suburbs.

And yet his ability to order up drugs from Mexico was impressive to the agents watching him. At some point in his early middle age, Rubio had connected with the Sinaloa cartel.

To build their case, federal agents began purchasing larger and larger quantities of drugs from Rubio, using an undercover buyer to determine the scale of his operation.

“We were buying meth at \$4,000 a pound,” said Jay Tinkler, then the top DEA agent in Utah and Wilson's boss.

Tinkler pleaded for more government funds to buy more drugs, partly at Wilson's insistence.

“I'm calling my boss and telling him: ‘It's a really good case, I'm telling you,’” Tinkler said.

Those purchases eventually helped the agents get a court-ordered wiretap on Rubio's phone. That's how they got a glimpse into the life of St. George's cartel connection. The surveillance was 24/7; a team of interpreters was employed.

Rubio repeatedly called the same two men in Sinaloa state, sometimes multiple times a day.

I need buttons, they heard him say, which meant fentanyl pills.

I need glass, he said, which meant meth.

#### **Fentanyl's deadly surge**

Fentanyl is the leading cause of death for Americans ages 18 to 49. The synthetic opioid is 50 times more potent than heroin, and its compactness makes it far easier to smuggle. The Washington Post [followed the fentanyl epidemic from Mexican labs to U.S. streets.](#)

Rubio also referred to drugs as goats and sheep, according to court documents in the case, “hoping it would go undetected because he literally sold goats and sheep from his corral.” The small-town nature of the investigation complicated things. Several times agents ran into an unsuspecting Rubio or his associates at the grocery store.

“You’ll never guess who I saw at the store,” one of the agents told Wilson after returning to the office one day.

It became clear over time that the two men in Mexico were affiliated with the Sinaloa cartel. Federal agents and prosecutors referred to them jointly as “the Mexican supply,” but their names, which would later appear in a federal indictment, were Ramon Higuera-Cota and Presciliano Galax-Felix. They could dispatch drugs to St. George rapidly, responding immediately to demand.

It wasn’t that Rubio worked as an underling for the Sinaloa men. He negotiated his own prices — often ruthlessly lowballing Higuera-Cota and Galax-Felix. The federal agents began to realize that the cartel wasn’t operating in St. George under a corporate hierarchy. Rubio hadn’t been sent here with orders from Sinaloa. He was the semiautonomous leader of his own mini-fiefdom, able to order fentanyl, meth and cocaine like a pizza delivery.

The drugs would arrive a day or two after his orders were placed, crossing the border near San Diego and then moving on to stash houses, often on the outskirts of Los Angeles. Then Rubio would arrange transport to St. George. He would sometimes lecture the drivers himself, federal agents said.

“He’d tell them: ‘Bring your kid so it’s less obvious. Always get your vehicle serviced so you don’t break down,’” Wilson recalled.

Those cars would travel along what has increasingly become America’s main fentanyl artery, Interstate 15, which connects Los Angeles to much of the country. It passes directly through St. George, where signs for available real estate continue to spring up. “A new standard of life is beginning,” reads one billboard.

The ranch where Ángel Rubio Quintana ran a drug distribution ring connected to the Sinaloa cartel. (Salwan Georges/The Washington Post)



When the drugs arrived in St. George, Rubio stashed some of them on the ranch he rented. He hid other loads in storage units. Others he left in the homes of friends or buried in the horse corral. His neighbors, mostly White retirees, grew suspicious. DEA agents installed a camera in the backyard of one neighbor's home. Another neighbor, Mark Correll, a retiree from Texas, bought night-vision goggles to keep an eye on the ranch.

"There was a lot of traffic late at night," Correll said. "A lot of fancy cars. We knew something was up. We just weren't sure what."

Rubio and his colleagues, court documents said, "pocketed some revenue as profits and wired payments to Mexican sources of supply."

"This cycle — ordering from Mexico, picking up from California, distributing in Southern Utah, wiring payments back to Mexico — resulted in large quantities of narcotics flowing into the local community," the documents said.



Inside the daunting hunt for the ingredients of fentanyl and meth



---

Rubio's fentanyl usually arrived in the form of counterfeit oxycodone pills called M-30s, about a thousand in a bag, worth some \$40,000 on the street. Those pills have become increasingly popular — and lethal — as cartels have tried to cater to drug users with rising tolerance. Rubio, agents estimate, was selling 20,000 to 30,000 pills a month.

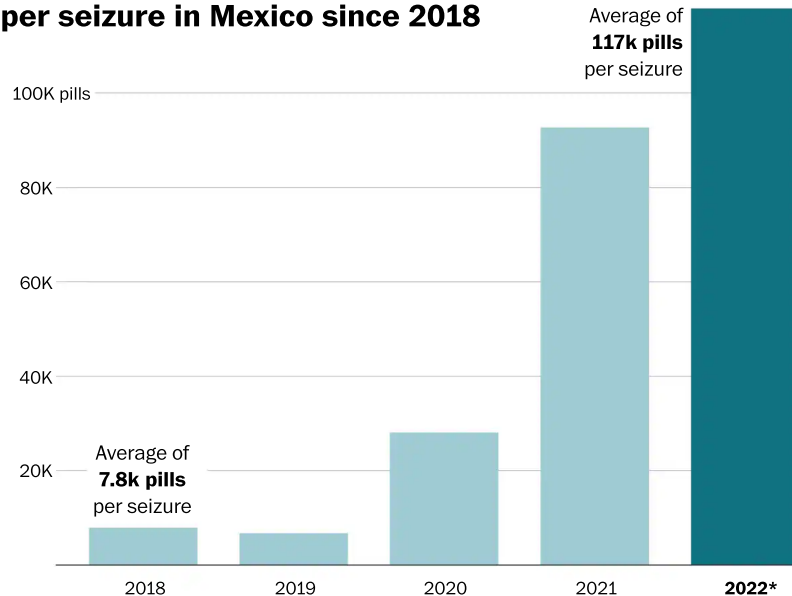
An agent recalled one conversation in which Rubio tried to place a fentanyl order and was rebuffed:

"We already moved over 25,000 pills yesterday," one of the men in Sinaloa said. "You should have given me an order. It's already all gone."

But more frequently, the Sinaloans appeared to have an endless supply. Sometimes, Rubio's connection would send him thousands more fentanyl pills than he had ordered.

When Rubio asked why traffickers had sent so many pills, he was told not to worry about it, said one federal official, who spoke on the condition of anonymity because he wasn't authorized to discuss the case.

### Average number of fentanyl pills per seizure in Mexico since 2018



\*2022 data as of May.

“He was told he could pay them back once it was sold,” the official said. “They’re literally pushing drugs because the quantity on the Mexico side is so high.”

At least twice, Rubio’s debt to the Sinaloa men grew to dangerous levels. The men in Mexico began threatening him.

“They were like, ‘We’re going to come up there and we’re going to hunt you guys down,’” one agent recalled.

Remarkably, Rubio called their bluff.

“He said, ‘Hey, this is America. You guys can’t come here and just be running around with guns.’”

But when people didn’t pay Rubio on time, he was the one who threatened violence. The federal agents, monitoring those threats in real time, sent police on what appeared to be routine patrols, meant to deter Rubio from hurting anyone. There was no indication that he did.

Rubio had originally moved to the United States more than two decades earlier. One of his first stops was Salt Lake City, where he worked construction. One day, he was buying food at a drive-through. A young Mexican woman named María de los Ángeles Acosta took his order.

Eventually the two got married. They had three kids. When people asked her, de los Ángeles described their lives in St. George as peaceful and happy. The city wasn’t as crime-ridden as some of the other American cities where Mexican

migrants ended up, she said. “Thankful and blessed,” she posted on Facebook under photos of the family.

People walk in downtown St. George, a city of about 100,000. (Ronda Churchill for The Washington Post)

Her husband’s clients in St. George came from a range of backgrounds. Some were the service workers who catered to the tourists passing through the city. Others were locals who thought they were purchasing oxycodone, a prescription drug used to treat severe pain.

Dmytro Luke, 22, who worked for a flooring company, died after taking a counterfeit M-30 pill in February 2021. His case drew public attention after his mother began alerting local journalists to the wave of fentanyl in southern Utah that had led to her son’s death. She’s still not sure whether the pill that killed Luke was trafficked by Rubio.

The agents faced a particular dilemma with Rubio’s fentanyl business. If they knew deadly pills were circulating during their investigation, agents said, they couldn’t sit idly by. So they frequently intervened by buying them through informants.

It was a complicated decision. The more pills they purchased, the higher demand could appear to Rubio, giving him an incentive to import more.



The agents knew that some of their most valuable evidence was against Rubio's suppliers in Sinaloa. Arresting Higuera-Cota and Galax-Felix was a crucial part of the case.

Those men appeared to be on the front line of the explosion of fentanyl. Aside from the M-30 pills, they offered Rubio cocaine and meth laced with fentanyl.

"They talked about that like, 'Hey, this is some new hot stuff like you should get,'" one agent said.

Later, Rubio would tell people that he was merely working for the two men in Sinaloa. He was a small fish, he said.



Visual story: To live and die in Tijuana



---

Because Higuera-Cota and Galax-Felix were in Mexico, the U.S. agents in Utah couldn't arrest them. It was a source of deep frustration. Agents believed they were exporting fentanyl and meth across much of the southwestern United States, potentially pushing millions of M-30s across the border every year.

"You have this great material and there's nothing you can do with it," said one

official who worked on the case.

The agents in Utah shared their evidence with Justice Department officials in Washington, according to a former U.S. official who spoke on the condition of anonymity because he wasn't authorized to comment. They hoped the case they had built against two men in Mexico would lead to their arrest. But that has not happened.

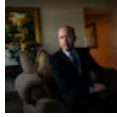
Mexican officials have not pursued either Higuera-Cota or Galax-Felix, according to the country's attorney general's office. That office would not comment on why it had not issued arrest warrants.

Neither man could be reached for comment.

Interstate 15 passes directly through St. George. (Salwan Georges/The Washington Post)

In St. George, federal agents decided they needed to move forward alone. By early this year, agents believed they had enough to build a case against Rubio and his associates in the United States. On a bulletin board in Wilson's office, they had mapped the dense web that connected Rubio to his team of dealers and suppliers in Mexico. They were ready to make the arrests. "Takedown day," they called it.

On Feb. 15, dozens of officers from several SWAT teams along with federal agents prepared for raids against Rubio and his accomplices. Some were low-level drug dealers selling fentanyl to pay for their own drug habits. Others were Rubio's friends and relatives to whom he paid a fraction of his proceeds.



Agents planned to conduct more than nine raids across Utah, many of them simultaneous. The DEA flew several aircraft overhead. The agents discussed what would happen if Rubio tried to shoot his way out, or if he tried to flee into the suburbs.

They arrived at Rubio's beige-stucco suburban home just before sunrise. It was a clear, crisp morning. They fired a stun grenade upon entering the house. They dragged Rubio, pajama-clad, from his bedroom without a fight.

He was charged with conspiracy to distribute fentanyl and methamphetamine and conspiracy to launder money. He was also charged with unlawful reentry into the United States.

Neighbors in the neatly kept suburb were alarmed. Many were armed. One young woman, living in the property next to Rubio's, loaded her handgun and sat in a lawn chair in case anyone tried to jump over her fence.

Agents also raided the 10-acre ranch, a few miles from Rubio's home. By the end of the day, they had arrested 12 people — including Rubio's 19-year-old son, Carlos Rubio-Acosta. Agents seized thousands of fentanyl pills, as well as cocaine and meth.

Rubio was taken to jail in Cedar City, just north of St. George. In July, he pleaded guilty to trafficking fentanyl, methamphetamine and marijuana, and to laundering the proceeds. He is awaiting sentencing.

It's possible that he could be deported after his prison sentence, probably a more dangerous consequence than prison, given the money he owes to the Sinaloa cartel.

"He left a lot of debts on the table," said one agent, who spoke on the condition of anonymity because he was not authorized to talk about the case.

"A lot," said another agent, who also spoke on the condition of anonymity. "I can only speculate how much, but he owes a lot of money."

Wilson walks on a path with views of the city's signature red mesas. (Ronda Churchill for The Washington Post)

Several months after Rubio's arrest, a Post reporter walked into Alvaro's Mexican Food, the family's fast-food restaurant, located in a St. George mall parking lot, next to a tuxedo rental.

A middle-aged woman was standing behind the counter. She stood next to a painting of the pre-Columbian city of Teotihuacán. She was on the phone.

It was Rubio's wife, María de los Ángeles Acosta. She was talking to her husband in prison.

"Do you want to talk to him?" she asked.

Rubio's voice then boomed through the speaker.

"Of what they are saying about me, 99 percent is false," he said.

"I was living a quiet life with my wife and my family," he said.

He didn't want to talk in detail about the accusations over the phone. He said he wanted to meet in person.

When Rubio hung up, de los Ángeles sighed.

She was torn. She knew nothing of Rubio's drug business, she said. She had been diagnosed with breast cancer in 2021, and the family had scrambled to pay



for her medical care. She didn't think her husband would resort to drug trafficking to pay those bills. But she said she believed U.S. law enforcement.

"The authorities cannot be wrong," she said. "If I trust anyone 100 percent, it is the U.S. authorities."

As far as she knew, she said, Rubio had been a struggling livestock trader. But he had been acting strange lately, she admitted.

He had created a policy for the family of turning all cellphones off at home. He seemed anxious all the time.

"I just assumed he was having an affair," she said. "One day I'd like to know the truth."

Later, she said she was planning to divorce Rubio.

His lawyer, Trinity Jordan, said his client did not want to speak to The Post.

"I talked to my client about your story and at this time he prefers to not participate," Jordan wrote in an email.

Rubio's son Carlos Rubio-Acosta pleaded guilty to conspiracy to distribute fentanyl, conspiracy to distribute marijuana and conspiracy to launder money. He was sentenced in August to 15 months in prison.

"He followed his father's lead and instructions while participating in the organization," the sentencing document said.

Rubio's own sentencing hearing is scheduled for later this month. Agents found no evidence of a connection between his extended family's restaurant and the drug business.

Wilson left the DEA this year for a job at the U.S. attorney's office. He's still working on the Rubio case, as well as other drug-related cases in St. George.

Rubio's arrest appeared to have an immediate impact, Wilson said. The flow of drugs arriving here appeared to diminish — mostly smaller loads arriving from Las Vegas at higher prices.

But Wilson knew that wouldn't last.

In recent months, the sizes of drug seizures in St. George have increased once again. In October, local police stopped a 19-year-old Mexican man with 62,000 counterfeit M-30 pills near the St. George exit of I-15. The load was twice as big as those Rubio had handled.

There was no confirmation yet, but Wilson recognized the signs. Soon, it would be time to start again.

Reporting by [Kevin Sieff](#). [Steven Rich](#) also contributed to this report. Photography by [Salwan Georges](#) and Ronda Churchill.

Design and development by [Allison Mann](#) and [Tyler Remmel](#). Additional design and development by [Laura Padilla Castellanos](#) and [Rekha Tenjarla](#). Graphics by [Júlia Ledur](#). Data analysis by [Steven Rich](#) and [Alejandra Ibarra Chaoul](#). “Post Reports” production by [Ariel Plotnick](#), [Reena Flores](#) and [Elahe Izadi](#).

[Trish Wilson](#) and [Courtney Kan](#) were the lead editors. Additional editing by [Chiqui Esteban](#), [Christian Font](#), [Meghan Hoyer](#), [Jai-Leen James](#), [Jeff Leen](#), [Jordan Melendrez](#), [Robert Miller](#), [Frances Moody](#) and [Martha Murdock](#).

Additional support from [Steven Bohner](#), [Matthew Callahan](#), [Sarah Childress](#), [Sarah Dunton](#), [Jenna Lief](#), [Monika Mathur](#), [Angel Mendoza](#), [Sarah Murray](#), [Ben Pillow](#), [Sarah Pineda](#), [Andrea Platten](#), [Kyley Schultz](#), [Casey Silvestri](#), [John Taylor](#) and [Mael Vallejo](#).

Data for graphics is from U.S. Customs and Border Protection, High Intensity Drug Trafficking Areas, U.S. Drug Enforcement Administration, Secretaría de la Defensa Nacional, Fiscalía General de la República, Secretaría de Marina and the Guardia Nacional

### **Cartel RX**

In a seven-part investigation, The Washington Post followed the fentanyl epidemic from Mexican labs to U.S. streets.

#### **Methodology**

The Post analyzed data from a range of sources to measure the rise of fentanyl in the United States and Mexico. Among other topics, reporters compiled data on drug seizures, overdose deaths and reversals, border crossings and fentanyl potency.

The data was collected from more than three dozen federal, state and local sources across the United States and Mexico. For example, for the count of overdose deaths in the United States, The Post used mortality data from the Centers for Disease Control and Prevention. To measure data seizures along Route 15 in Mexico, reporters standardized multiple datasets from agencies including the Secretaría de la Defensa Nacional, Fiscalía General de la República, Secretaría de Marina and the Guardia Nacional.

Reporters made open records requests in both countries, retrieved data from government websites to create data sets and obtained and analyzed seizure data from High Intensity Drug Trafficking Areas, run by the White House's drug czar, by submitting a detailed research proposal to gain access.



## Five down in Apt. 307: Mass fentanyl deaths test a Colorado prosecutor

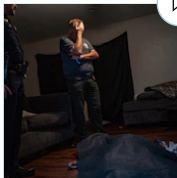
> **Keep reading**

🔖 **Save**

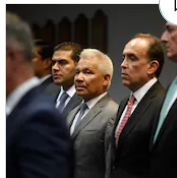
### MORE STORIES IN THIS SERIES



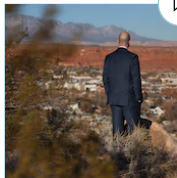
Overview:  
From Mexican labs to U.S. streets, a lethal pipeline



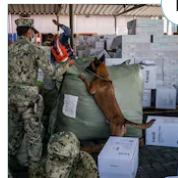
Washington faltered as fentanyl gripped America



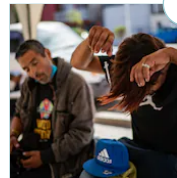
How the U.S. lost a key ally in Mexico as fentanyl took off



A DEA agent tracked the source of fentanyl in Utah to a Mexican cartel



Inside the daunting hunt for the ingredients of fentanyl and meth



Visual story:  
To live and die in Tijuana



Why is fentanyl so dangerous?

In order to comment, please [set a display name](#).

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

---

[View more](#)

---

**washingtonpost.com**

© 1996-2024 The Washington Post

[About The Post](#)

[Contact the Newsroom](#)

[Contact Customer Care](#)

[Request a Correction](#)

[Send a News Tip](#)

[Report a Vulnerability](#)

[Download the Washington Post App](#)

[Policies & Standards](#)

[Terms of Service](#)

[Privacy Policy](#)

[Cookie Settings](#)

[Print Products Terms of Sale](#)

[Digital Products Terms of Sale](#)

[Submissions & Discussion Policy](#)

[RSS Terms of Service](#)

