Save Lives in New Mexico

Improve Access & Remove Barriers to Medication for Opioid Use Disorder (MOUD)

Presentation for the New Mexico State Legislature
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Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

In 2021, more than 107,000 Americans died from a drug overdose

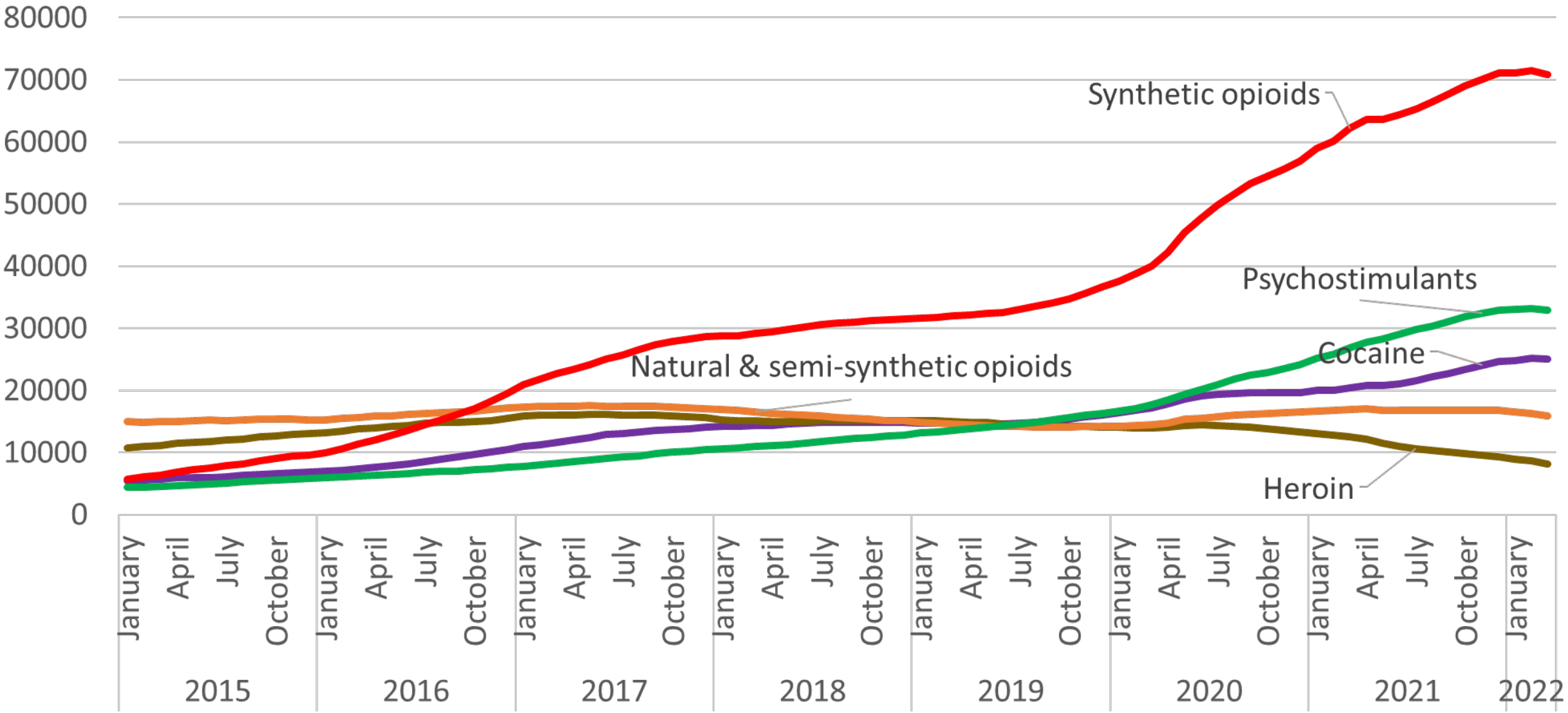
Provisional mortality data, 12-month period ending in January 2022 from CDC as of July 26, 2022, Congressional Testimony
Senate Health, Education, Labor, and Pensions Committee
https://www.cdc.gov/washington/testimony/2022/t20220726.htm#:~:text=Together%20we%20can%20stop%20drug,months%20ending%20in%20January%202022.

More than a 25% increase above 2020

75% involved at least one opioid

66.5% involving synthetic opioids, **primarily illicitly manufactured fentanyl or fentanyl analogs**

Overdose Deaths by Drug Class, US, 2015-2022



Synthetic opioids excludes methadone which is included with natural and semi-synthetic opioids
Categories are not mutually exclusive; 2021 and 2022 data are provisional
Source: NCHS Vital Statistics Rapid Release(https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm) 9/14/22

Lethal Dose of Fentanyl

https://www.dea.gov/galleries/drug-images/fentanyl

“blues”

Most commonly “smoked” – vapor inhaled from heating in an open aluminum foil -- may exceed 80% bioavailability

MOUD / MAT Saves Lives

Counseling is Not Enough

MOUD (MEDICATIONS FOR OPIOID USE DISORDER)
MAT (MEDICATIONS FOR ADDICTION TREATMENT)
(**buprenorphine, methadone, naltrexone**) is the **MOST EFFECTIVE** Treatment for Opioid Use Disorder

- Opioid addiction (OUD) does not respond to the same treatments as alcoholism (alcohol use disorder).
- Non-MOUD based therapies generally DO NOT WORK: ~ >90% annual relapse rate.
- Twelve Step programs alone have a <10% rate of recovery/sobriety at one year, when treating Opioid Use Disorder.
- Retention rates in MOUD programs vary broadly, dependent upon multiple factors, with 1-year recovery/sobriety of ~10% to 80%, but average ~40-50%.

MOUD/ MAT is Life Saving!

Methadone, Buprenorphine, and Naltrexone

Compared to patients receiving MOUD,

UNTREATED patients with OUD

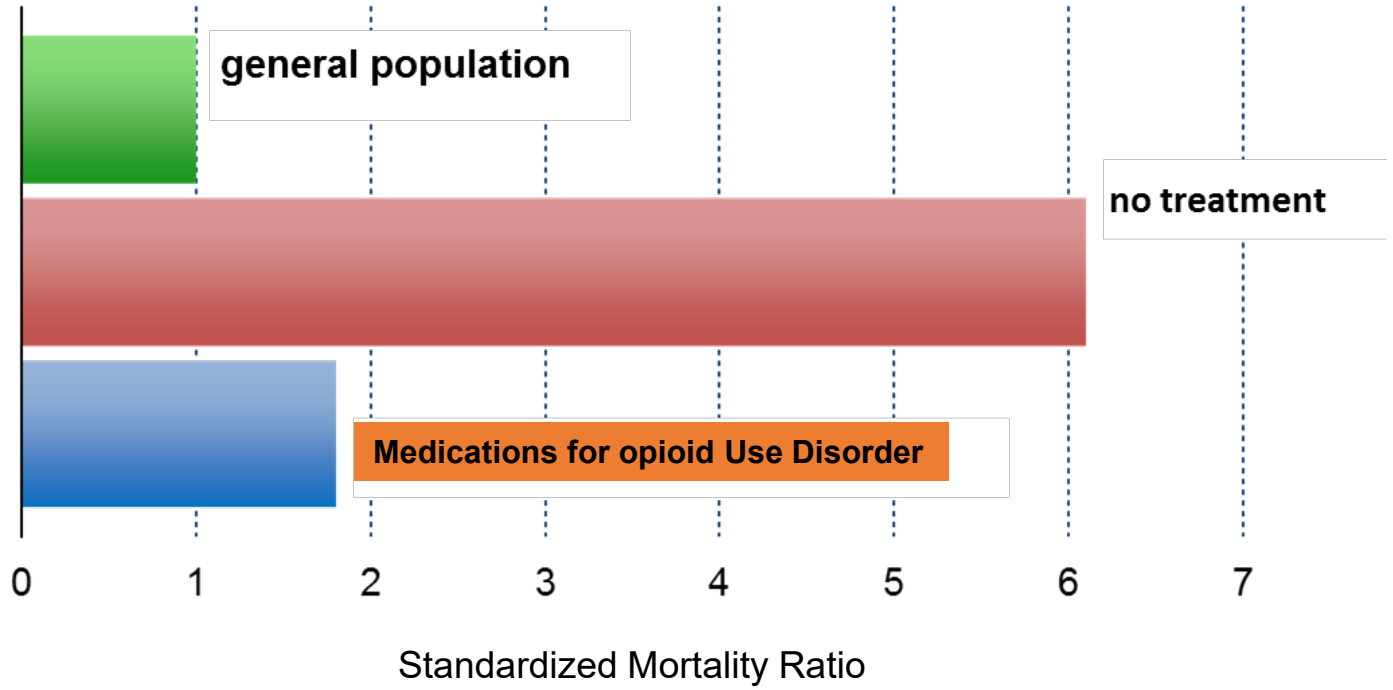
have at 1 year:

- >2.5 X all cause mortality
- > 8 X overdose mortality

Ma J, Bao YP, Wang RJ, et al. Effects of medication-assisted treatment on mortality among opioids users: a systematic review and meta-analysis. *Mol Psychiatry*. 2018 Jun 22. doi: 10.1038/s41380-018-0094-5.

Benefits of MOUD / MAT: Decreased Mortality

Death rates:



Dupouy et al., 2017
Evans et al., 2015
Sordo et al., 2017

MOUD/MAT has been shown **worldwide** to be **the most effective** means of reducing the rate of **injection drug use**, and in turn, **the most effective intervention** for reducing the **transmission of HIV and Hepatitis C**.

- Fraser H, Zibbell J, Hoerger T, et al. Scaling-up HCV prevention and treatment interventions in rural United States-model projections for tackling an increasing epidemic. *Addiction*. 2018 Jan;113(1):173-182.
- Metzger DS1, Donnell D, Celentano DD, et al. Expanding substance use treatment options for HIV prevention with buprenorphine-naloxone: HIV Prevention Trials Network 058. *J Acquir Immune Defic Syndr*. 2015 Apr 15;68(5):554-61
- Springer SA, Larney S, Alam-Mehrjerdi Z, et al. Drug Treatment as HIV Prevention Among Women and Girls Who Inject Drugs From a Global Perspective: Progress, Gaps, and Future Directions. *J Acquir Immune Defic Syndr*. 2015 Jun 1;69 Suppl 2:S155-61.
- Metzger DS, Woody GE, O'Brien CP, et al. Drug treatment as HIV prevention: a research update. *J Acquir Immune Defic Syndr*. 2010 Dec;55 Suppl 1:S32-6.
- Kresina TF, Bruce RD, McCance-Katz EF. Medication assisted treatment in the treatment of drug abuse and dependence in HIV/AIDS infected drug users. *Curr HIV Res*. 2009 Jul;7(4):354-64.
- Metzger DS, Zhang Y. Drug treatment as HIV prevention: expanding treatment options. *Curr HIV/AIDS Rep*. 2010 Nov;7(4):220-5.
- Bone C, Eysenbach L, Bell K, et al. Our Ethical Obligation to Treat Opioid Use Disorder in Prisons: A Patient and Physician's Perspective. *J Law Med Ethics*. 2018 Jun;46(2):268-271
- Norton BL, Beitin A, Glenn M, et al. Retention in buprenorphine treatment is associated with improved HCV care outcomes. *J Subst Abuse Treat*. 2017 Apr;75:38-42.
- Bernard CL, Owens DK, Goldhaber-Fiebert JD, et al. Estimation of the cost- effectiveness of HIV prevention portfolios for people who inject drugs in the United States: A model-based analysis. *PLOS Med J*. doi.org/10.1371/journal.pmed.1002312
- Sullivan LE, Metzger DS, Fudala PJ, et al. Decreasing international HIV transmission: the role of expanding access to opioid agonist therapies for injection drug users. *Addiction*, 100 (2), Feb 2005, Pages 150-158
- Wammes J, et al. Cost-effectiveness of methadone maintenance therapy as HIV prevention in an Indonesian high-prevalence setting: A mathematical modeling study. *International Journal of Drug Policy*, 23 (5), Sept 2012, Pages 358-364
- Williams AR, and Bisaga A. From AIDS to Opioids — How to Combat an Epidemic. *N Engl J Med* 2016; 375:813-815
- Bruce RD. Methadone as HIV prevention: High Volume Methadone Sites to decrease HIV incidence rates in resource limited settings. *International J of Drug Policy*. 21 (2), Mar 2010, 122-124

Hospital Costs due To OUD Related Illnesses are Soaring:

overdose, neonatal withdrawal, numerous infectious complications

- Hsu DJ, McCarthy EP, Stevens JP, et al. Hospitalizations, costs and outcomes associated with heroin and prescription opioid overdoses in the United States 2001-12. Addiction. 2017 Sep;112(9):1558-1564
- Fleischauer AT, Ruhl L, Rhea S, et al. Hospitalizations for Endocarditis and Associated Health Care Costs Among Persons with Diagnosed Drug Dependence — North Carolina, 2010–2015. MMWR Morb Mortal Wkly Rep. 2017 Jun 9; 66(22): 569–573.

MOUD/MAT Reduces Hospital admissions and Emergency Department Utilization:

- Lo-Ciganic WH, Gellad WF, Gordon AJ, et al. Association between trajectories of buprenorphine treatment and emergency department and in-patient utilization. Addiction. 2016 May;111(5):892-902
- Schwarz R, Zelenev A, Bruce RD, et al. Retention on buprenorphine treatment reduces emergency department utilization, but not hospitalization, among treatment-seeking patients with opioid dependence. J Subst Abuse Treat. 2012 Dec;43(4):451-7
- Mohlman MK, Tanzman B, Finison K, et al. Impact of Medication-Assisted Treatment for Opioid Addiction on Medicaid Expenditures and Health Services Utilization Rates in Vermont. J Subst Abuse Treat. 2016 Aug;67:9-14
- Skeie I, Brekke M, Lindbaek M, et al. Somatic health among heroin addicts before and during opioid maintenance treatment: a retrospective cohort study. BMC Public Health. 2008 Jan 31;8:43
- **Webinar on ACEP E-QUAL Website -- Business case for ED Buprenorphine:**
- *"The Economic and Business Case for Utilizing Buprenorphine in the ED,"* webinar recorded for the ACEP Emergency Quality Network (E▪QUAL) Opioid Education series. https://players.brightcove.net/1493166405001/default_default/index.html?videoId=5837703554001
- Berg M, Idrees U, Ding R, et al. Evaluation of the use of buprenorphine for opioid withdrawal in an emergency department. Drug and Alcohol Dep 86 (2007) 239–244
- D'Onofrio G, O'Connor PG, Pantalon MV, et al. Emergency department-initiated buprenorphine/naloxone treatment for opioid dependence: a randomized clinical trial JAMA. 2015 Apr 28;313(16):1636-44
- Kaucher K, Caruso E, Sungar G, et al. Evaluation of an emergency department buprenorphine induction and medication-assisted treatment referral program. Am J Emerg Med. 2019 Jul 30
- Hu T, Snider-Adler M, Nijmeh L, Pyle A. Buprenorphine/naloxone induction in a Canadian emergency department with rapid access to community-based addictions providers. CJEM. 2019 Jul;21(4):492-498
- Edwards F, Wicelinski R, Gallagher N, et al. Treating Opioid Withdrawal with Buprenorphine in a Community Hospital Emergency Department: An Outreach Program. Ann Emerg Med. 2020 Jan;75(1):49-56

MOUD/MAT Reduces Crime

- Many Non-medical societal harms & costs of OUD: **victims of crime and violence, incarceration (direct costs), criminal just system costs, and costs of lost labor.**
- Boznia-Herzogovinia was also suffering from a growing opioid use disorder problem.
- In 2009 MAT "program with Buprenorphine/ Naloxone (Suboxone)" implemented in Tuzla.
- "Annual costs of the [medication] therapy amounted to ~$7,900 USD per patient."
- "The monetary value of the substitution therapy benefits for the society, as the result of reduction in criminal activities of involved addicts, amounted to ~$87,500 USD per patient."
- **A benefit/cost ratio of > 11 to 1 !**

Hasanovic M,et al. Cost-Benefit Analysis Of The Opiate Substitution Treatment With Buprenorphine/Naloxone In Bosnia And Herzegovina. *Global Fund for the United Nations Development Programme*. 2017

MOUD/MAT
Reduces Rates of Incarceration

- 17 Year cohort study demonstrated a 33% drop in both violent and non-violent crime among patients in methadone treatment with previous convictions/incarcerations. (Canada 2017**)**
- 5 Year cohort study of patients in methadone treatment post-incarceration: 10% reduction in rate of conviction for every 6 months maintained in treatment. (UK 2010)
- 4 Year follow-up study after receiving methadone treatment while incarcerated: inmates treated for at least 8 months had a 70% decrease in re-incarceration. (Australia 2002)
- Jail-based Methadone Maintenance Treatment is no more expensive than community-based treatment. (2018 USA – University of New Mexico)
- Treatment of inmates with buprenorphine still not well studied.

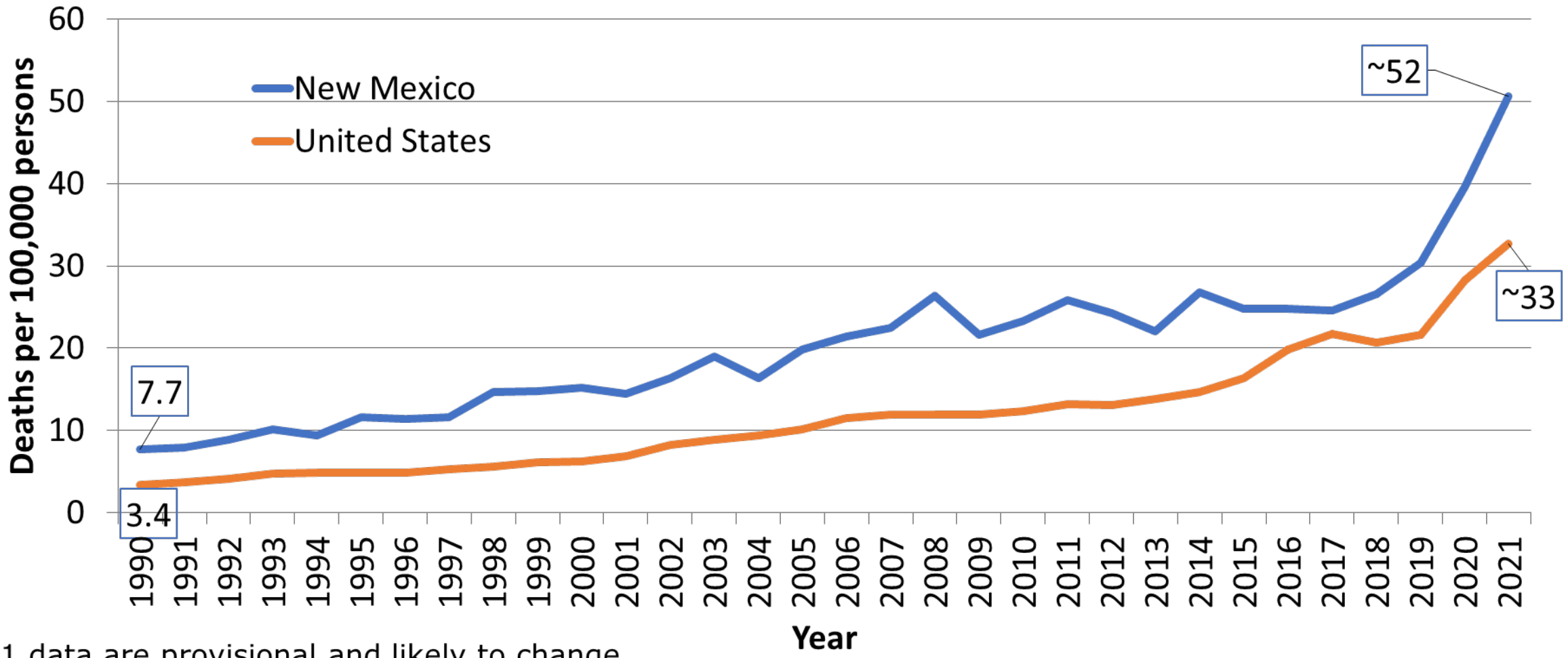
Russolillo A, et al. Associations between methadone maintenance treatment and crime: a 17-year longitudinal cohort study of Canadian provincial offenders. Addiction, 2017: 113, 656–667

Oliver P, et al. The effect of time spent in treatment and dropout status on rates of convictions, cautions and imprisonment over 5 years in a primary care-led methadone maintenance service. *Addiction* 2010; 105: 732–9

Dolan K, et al. Four-year follow-up of imprisoned male heroin users and methadone treatment: mortality, re-incarceration and hepatitis C infection. *Addiction* 2005; 100: 820-828

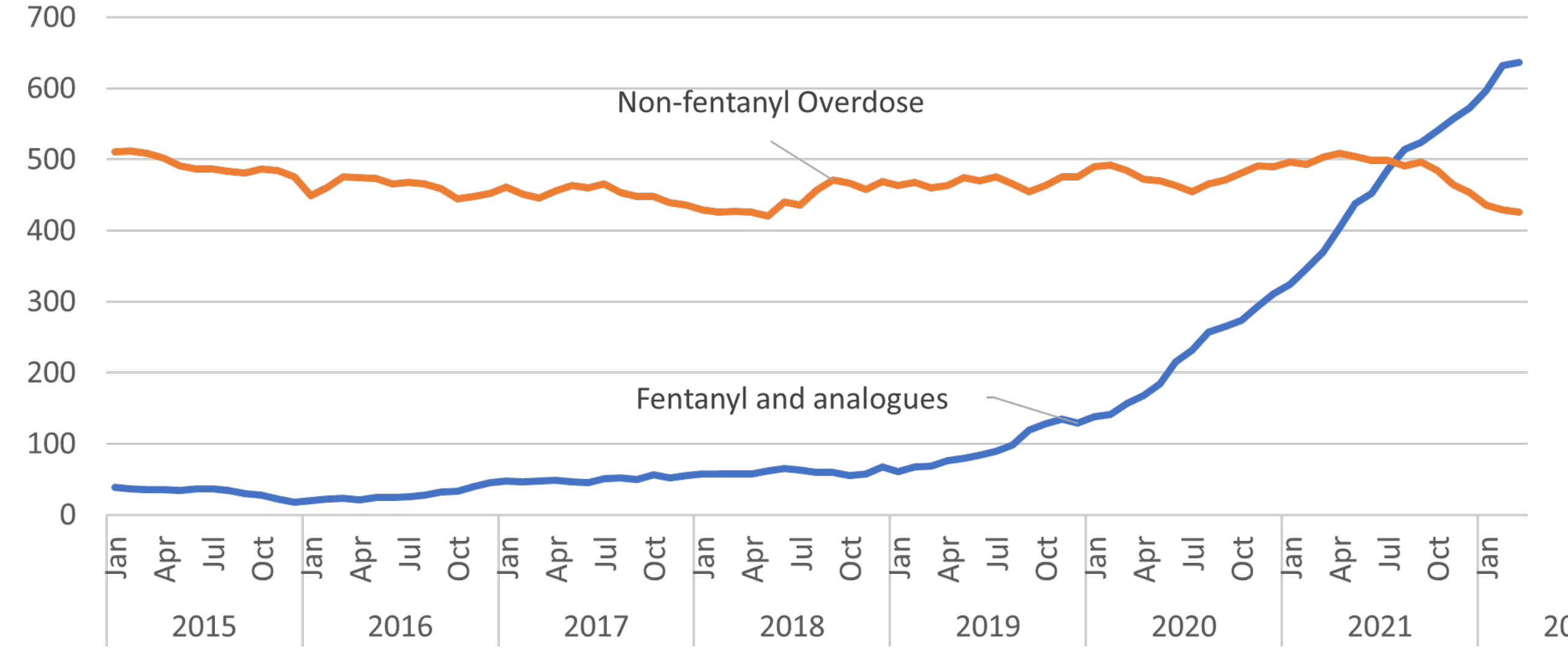
Horn B, et al. The economic costs of jail-based methadone maintenance treatment. *Am J of Drug & Alcohol Abuse*. 2018; 44: 611-618.

Drug Overdose Death Rates
New Mexico and United States, 1990-2021*



*2021 data are provisional and likely to change
Rates are age adjusted to the US 2000 standard population
Source: United States (CDC Wonder); New Mexico (NMDOH BVRHS/SAES, 1990-1998,2016-2021 ; NM-IBIS, 1999-2015); NM & US 2021 data are provisional

12 Month Running Totals of Overdose Deaths by Fentanyl Involvement, NM 2016-2022 (provisional)

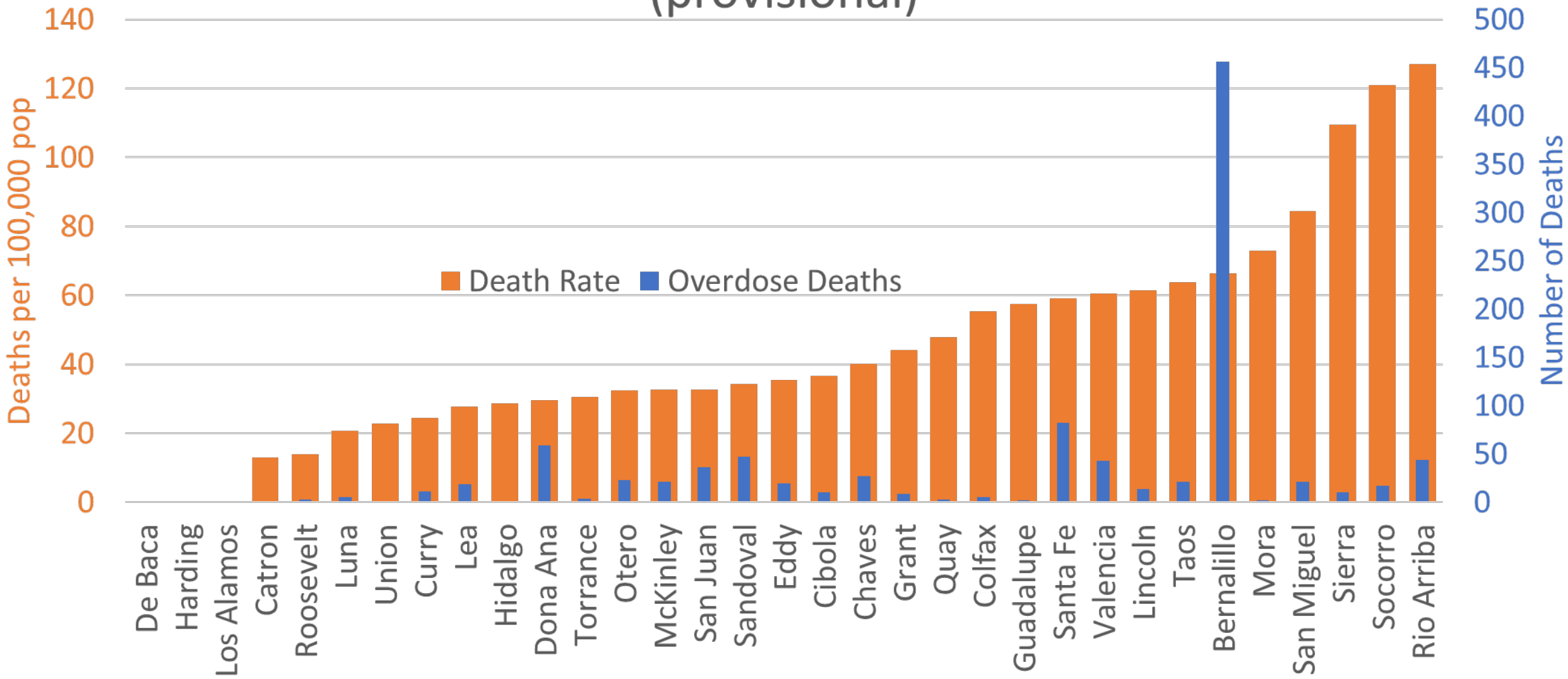


Each point represents the sum of the prior 12 months
2021 data are provisional as of 8/15/22 and subject to change
Source: NM DOH Bureau of Vital Records and Health Statistics death data

Rural New Mexico is struggling

Some rural counties have seen the most rapid increases in overdose deaths

Drug Overdose Death Rate and Count, NM, 2021 (provisional)

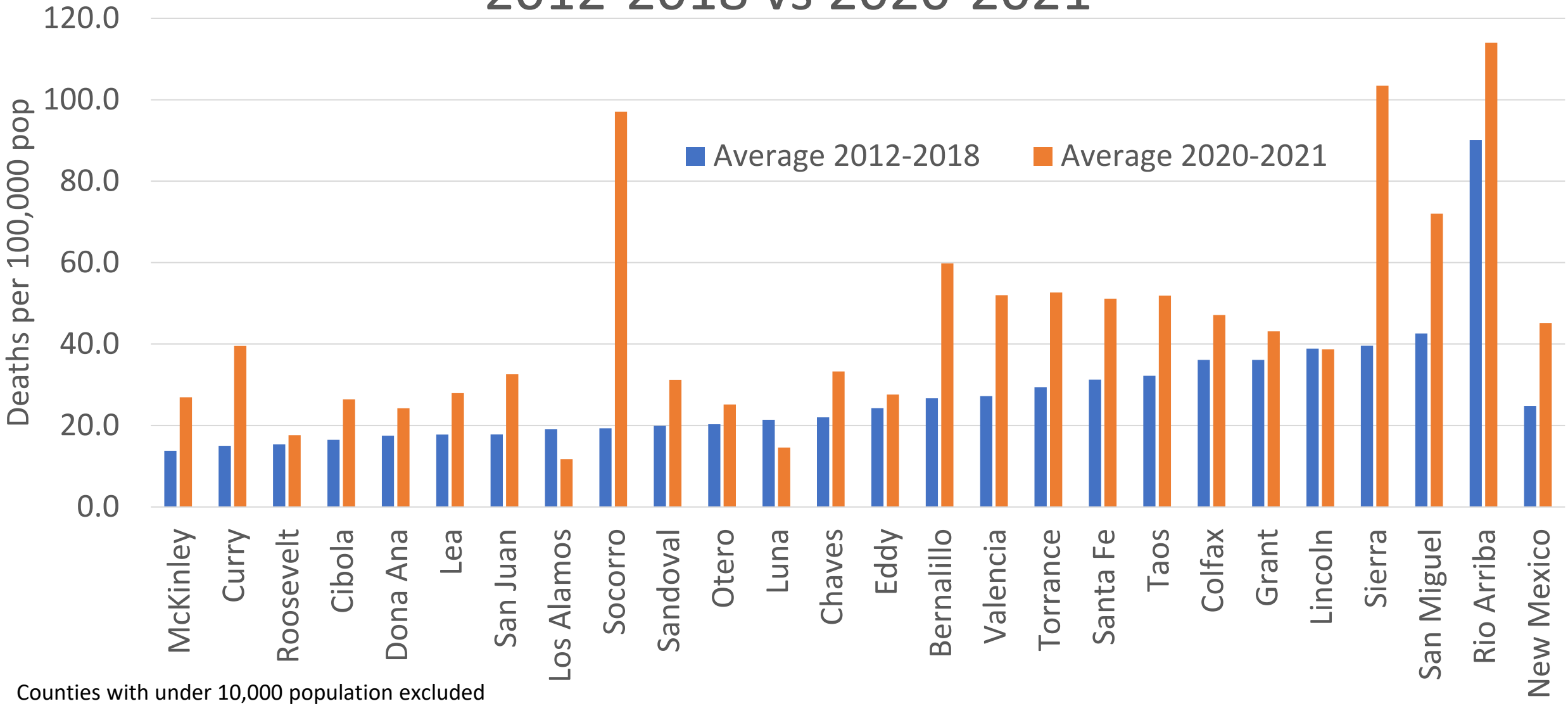


Rates are age adjusted to the US 2000 Standard population

Data are provisional and subject to change

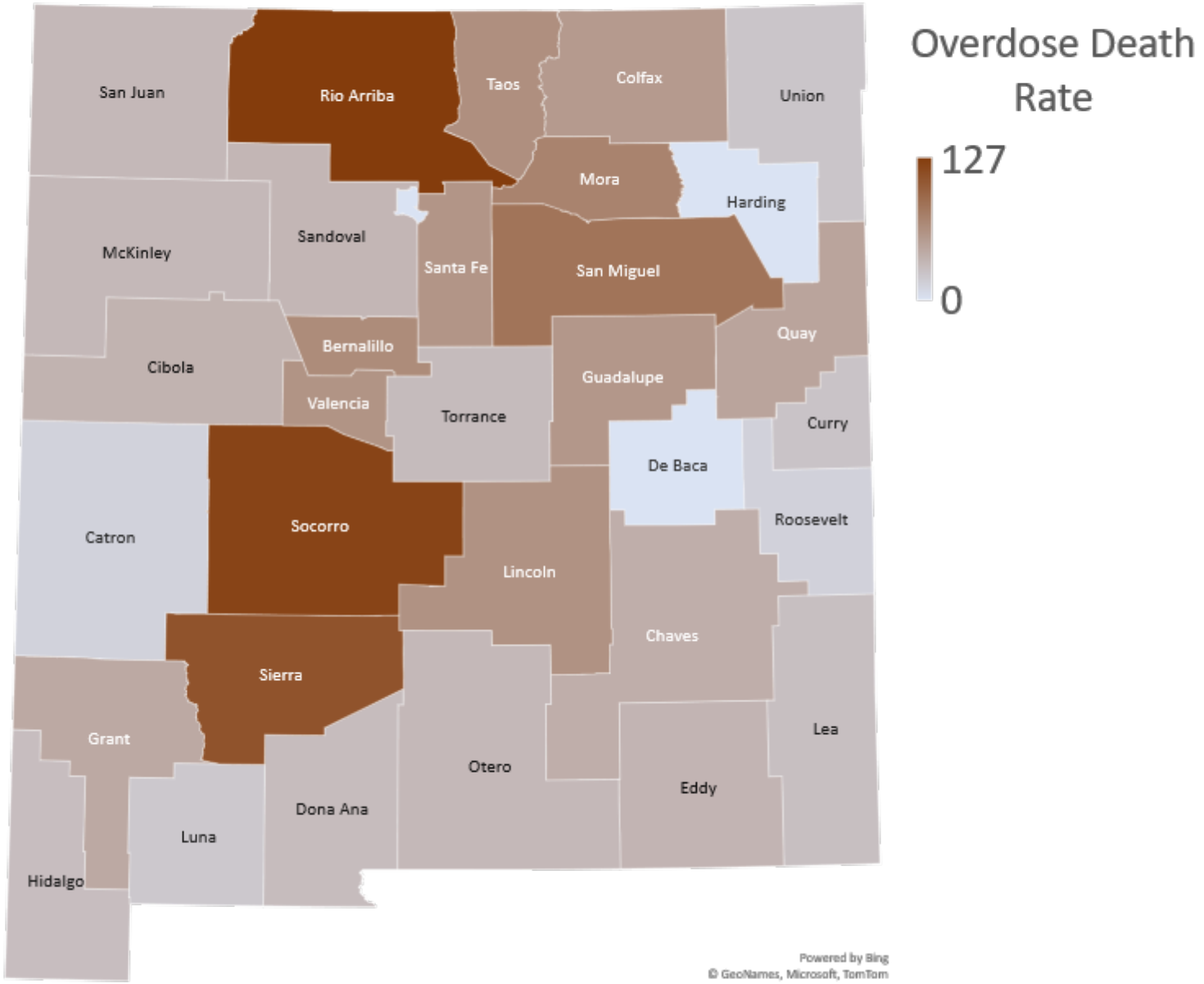
Source: NM DOH Bureau of Vital Records and Health Statistics death files

Overdose Death Rates by County, New Mexico, 2012-2018 vs 2020-2021



Counties with under 10,000 population excluded
Rates are age adjusted to the US 2020 standard population
Source NM DOH Bureau of Vital Records and Health Statistics death files

Drug Overdose Death Rate, New Mexico, 2021 (provisional)



Data are provisional and subject to change
Source: NM DOH Bureau of Vital Records and Health Statistics death files

Shortage of nearly all types of healthcare professionals in New Mexico

New Mexico Health Care Workforce Committee. 2021 Pending Annual Report. Albuquerque NM: University of New Mexico Health Sciences Center; 2021

Shortages are most severe in less-populated counties

As of 31 December 2020, without redistributing the current workforce, New Mexico needs:

- Primary care physicians, OB/Gyns, surgeons, psychiatrists, CNMs, CNPs, dentists, etc., and:
- 6,223 RNs/CNSs
- **521 Pharmacists**

There is a shortage of pharmacists in rural New Mexico

Example: there are times when pharmacies close in Espanola, because there is no pharmacist to work

The Pew Charitable Trusts Recommendations for New Mexico

- "In October 2019, **The Pew Charitable Trusts (Pew) was invited to provide the State of New Mexico with technical assistance** on its substance use disorder (SUD) programs and policies and provide recommendations."
- 'Pew held over 100 meetings with key stakeholders, **analyzed available federal and state data**, and reviewed the current legal and regulatory landscape."
- Objective: "… **expanding access to medications for opioid use disorders (MOUD)** and behavioral therapy."
- "Each recommendation is grounded in **evidence-based best practices and informed by evaluations of innovative models from other jurisdictions**."
- Pew provided: "**11 recommendations** categorized by six domains that will build on New Mexico's efforts **to address the opioid crisis and may result in measurable improvements in access to MOUD**"

Pew's 11 Policy Recommendations

Increasing the adoption of best practices for OUD treatment in the state's hospital system

- **Recommendation 1:** The Governor's Office should direct the Department of Health to require hospitals, as a condition of state licensure, to have protocols for initiating MOUD, distributing naloxone, and transitioning patients treated for a drug overdose.
- **Recommendation 2:** The Department of Health should use State Opioid Response funds to support practice facilitation.

Improving the quality and quantity of residential treatment for Medicaid patients

- **Recommendation 3:** The Children, Youth, and Families Department, the Behavioral Health Service Division of the Human Services Department, and the Department of Health should create an inter-departmental council that coordinates regulation and compliance for residential treatment facilities.
- **Recommendation 4:** The Behavioral Health Services Division of the Human Services Department should coordinate with the Regulation and Licensing Department and the Department of Health to phase in service requirements that expand the use of MOUD in residential treatment facilities using state licensure regulations.
- **Recommendation 5:** The Behavioral Health Services Division of the Human Services Department should coordinate with the Regulation and Licensing Department and the Department of Health to require residential treatment facilities, as a condition of licensure, to provide treatment to public -insurance recipients on a non-discriminatory basis and report the facility's payer mix.

Pew's 11 Policy Recommendations

Reducing preventable deaths from OUD

- **Recommendation 8:** The New Mexico Legislature should consider amending the 911 Good Samaritan Law to ensure legal protections for overdose bystanders.
- **Recommendation 9:** The Department of Health should allocate funding to purchase and distribute fentanyl test strips through the Hepatitis and Harm Reduction Program.
- **Recommendation 10:** To support the distribution of fentanyl testing strips, the New Mexico Legislature should consider introducing legislation to exempt drug testing materials from the Controlled Substances Act.

Expanding access to underserved populations, including individuals in criminal justice facilities

- **Recommendation 11:** The Governor's office should direct the Department of Health to develop a plan with the Department of Corrections and the Behavioral Health Services Division of the Human Services Department to initiate MOUD programs in state prisons.

Pew's 11 Policy Recommendations

Aligning Opioid Treatment Program regulations with federal directives

- **Recommendation 6:** The Governor should appoint a workgroup tasked with revising Department of Health and Board of Pharmacy regulations, as needed, to better align the state's Opioid Treatment Program workforce regulations with federal requirements on what kinds of providers can dispense methadone.

Increasing buprenorphine prescribing capacity and strengthen care coordination services

- **Recommendation 7:** The Human Services Department should pursuea Centennial Care 2.0 managed care contract amendment to pay for care coordination services at the point-of-care to facilitate team-based care, with the goal of increasing the number of providers offering buprenorphine.

Overview of Opioid Treatment Program Regulations by State

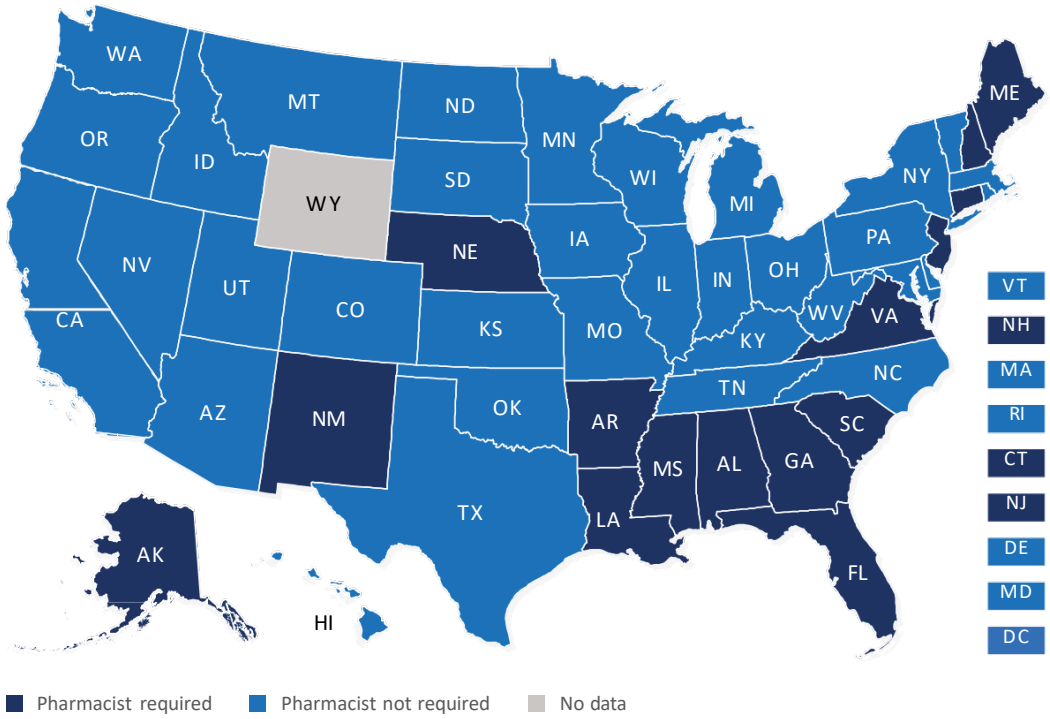
Restrictive rules put evidence-based medication treatment out of reach for many

https://www.pewtrusts.org/-/media/assets/2022/09/overview-of-opioid-treatment-program-regulations-by-state.pdf

Figure 5

15 States Require Pharmacist Services in OTPs

Regulations mandating that a pharmacist be employed at OTPs or a consultant pharmacist used as of June 1, 2021



Note: Wyoming has no data because the state has no OTPs or related regulations.

Requiring pharmacist services

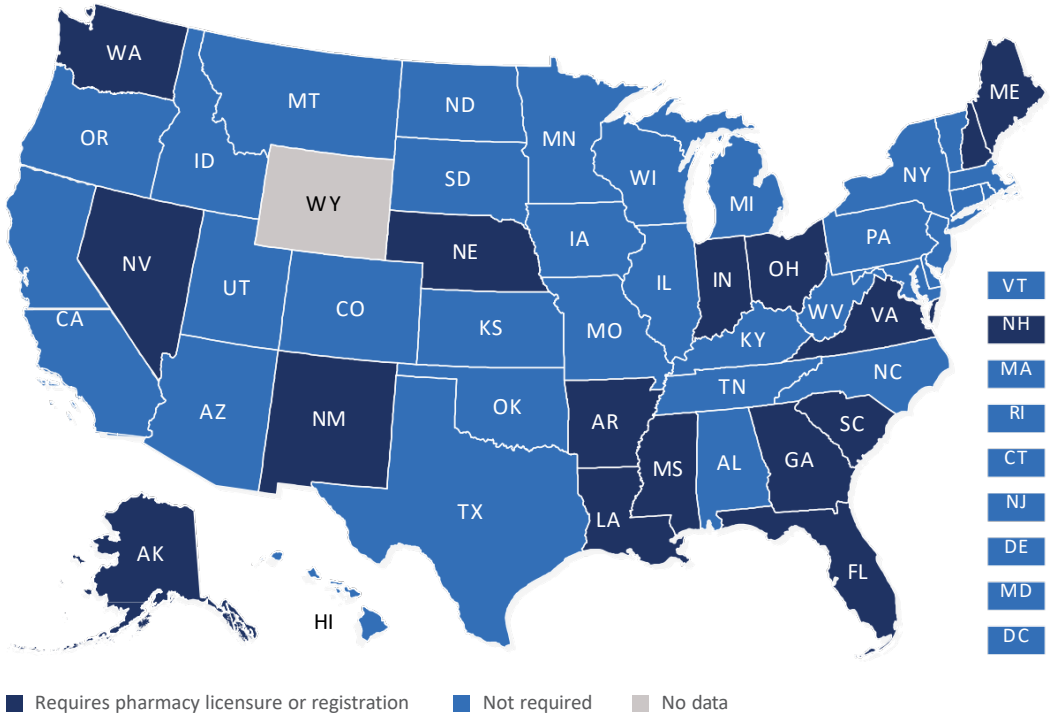
Federal law allows methadone administration by a variety of licensed health care professionals including registered nurses, licensed practical nurses, or other health care professionals who are otherwise authorized to dispense opioids.[9]

However, 15 states require OTPs to hire a pharmacist or a consultant pharmacist, who provides guidance on the appropriateness and safety of medication use.[10]

Figure 3

16 States Require OTPs to Obtain a Pharmacy License or Registration

Regulations as of June 1, 2021



Note: Wyoming has no data because the state has no OTPs or related regulations.

Pharmacy-related barriers

Requiring pharmacy licensure or registration

Another barrier to establishing new OTPs mandates that they be licensed or registered as pharmacies.

This is not required by federal law.[8]

Sixteen states have these rules.

Medication Storage and Administration at an OTP

Contains only:

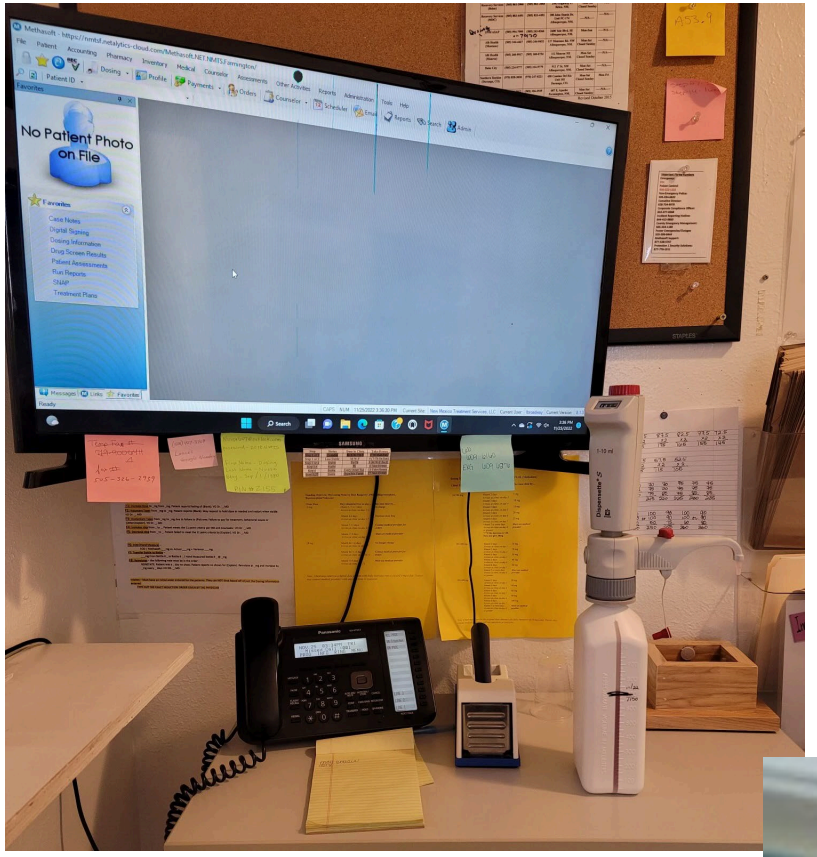
methadone liquid &

buprenorphine tablets (8mg and 2mg)

Temperature Controlled Vault

Medication Storage and Administration at an OTP

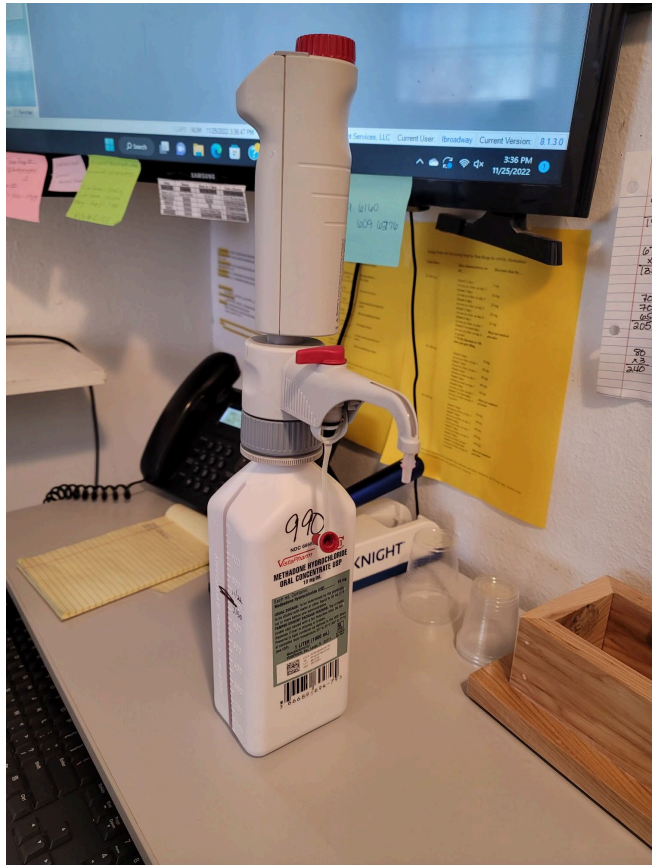
Nurse verifies patient identity at the dosing window



- **Nurse verifies the dose in the electronic medical record,**
- **dials in the dose on the digital pipette,**
- **Pipette releases that precise dose into the dose cup**

Medication Storage and Administration at an OTP

The same digital pipette can be used to fill take home bottles – which nurses do in 34 other states (and D.C.)



Why does this matter?

Pharmacists are less available in more rural areas.

Pharmacists often only prepare take home doses after hours, and only on certain days of the week.

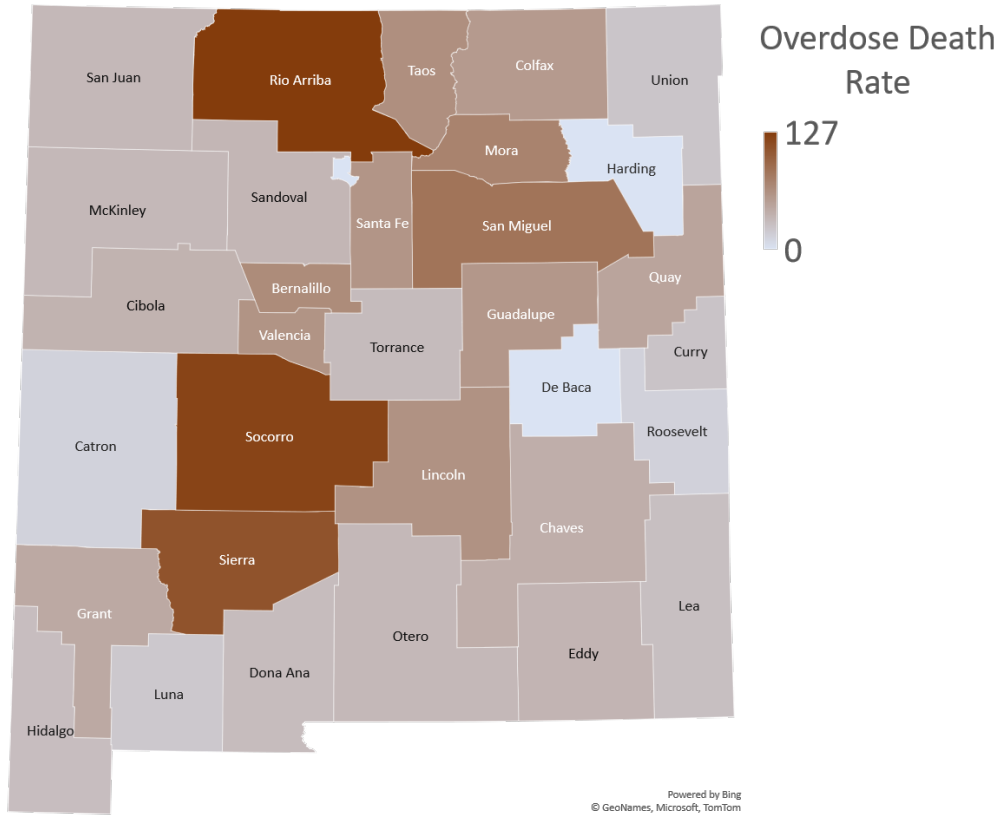
This reduces the flexibility to:

- adjust take home doses
- provide take home doses for new patients, OR
- for patients who have missed doses but who have returned to treatment.

Limits access to care

Increases risk of return to fentanyl

Drug Overdose Death Rate, New Mexico, 2021 (provisional)



Recommendations

1. REMOVE the New Mexico requirement that OTPs register as pharmacies or obtain pharmacy licensure.

-- All OTPs already report all methadone and buprenorphine administration on a daily basis to the State Opioid Treatment Authority (SOTA), within the Behavioral Health Services Division (BHSD) of the Department of Human Services (DHS).

2. REMOVE the New Mexico requirement that pharmacists prepare all take-home doses.

-- Allow nurses to prepare take-home doses of methadone and buprenorphine.

-- Nurses are perfectly capable of doing so safely.

Questions?

Thank you!

emketcham@msn.com

So Why MOUD/MAT?

Medication saves lives!

MOUD/MAT helps Americans -- helps New Mexicans -- get their lives back: working, meeting family obligations, avoiding the criminal justice system, paying taxes, and avoiding the hospital.

Treating OUD with medication yields a tremendous return on investment (ROI) for society.

Treatment of OUD does not happen in a vacuum – or a from a vending machine.

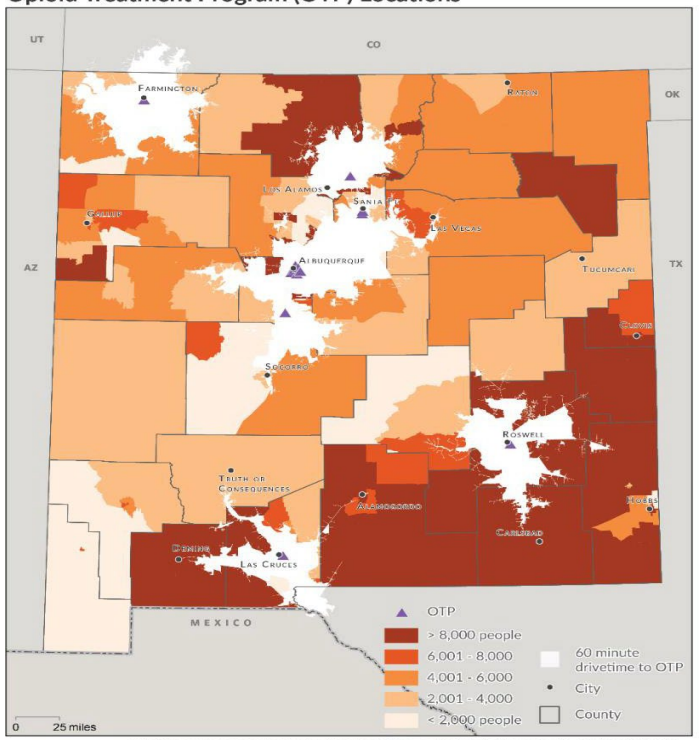
Treating OUD is a team sport – requires investment.

Recommendations to Increase Access to Substance Use Disorder Treatment

Prepared by The Pew Charitable Trusts for New Mexico

- In New Mexico, 63% of drug overdose deaths involved opioids in 2018; a total of more than 338 fatalities.[1]
- Among opioid-involved deaths, those involving synthetic opioids such as fentanyl—which is 50 to 100 times stronger than morphine—accounted for 108 fatalities.
- Deaths involving heroin or prescription opioids accounted for a respective 130 and 176 fatalities.
- In January 2020, HSD estimated that nearly 39,000 people were living with OUD in the state in 2018.[2]
- New Mexico recorded the highest Hispanic drug overdose mortality rate in the United States in 2017.[3]

New Mexico Population Density Outside 60 Minutes Driving of Opioid Treatment Program (OTP) Locations



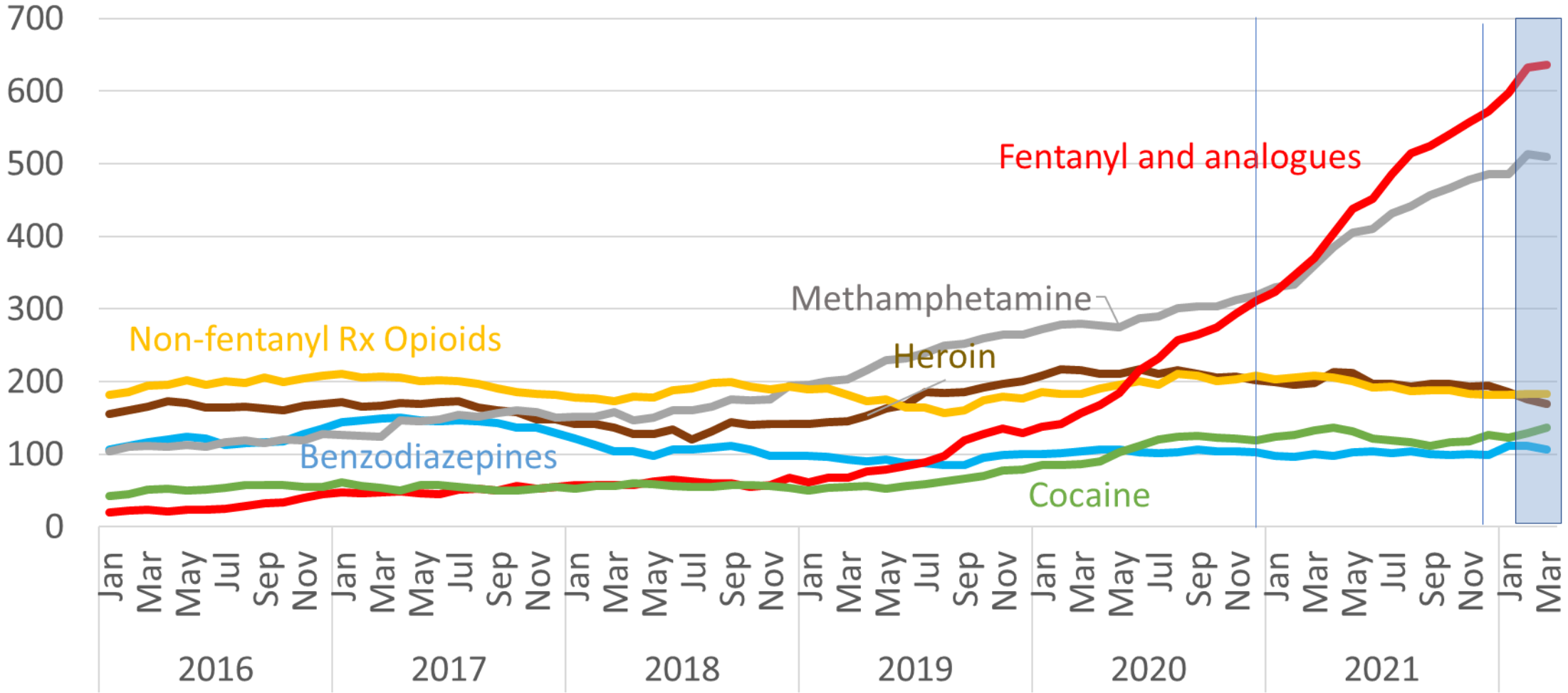
SOURCE: Drive times calculated with Esri; US Census; SAMHSA; Natural Earth. Updated 12/2019.

[1] NIDA. 2020, April 3. New Mexico: Opioid-Involved Deaths and Related Harms. Retrieved from https://www.drugabuse.gov/drug-topics/opioids/opioid-summaries-by-state/new-mexico-opioid-involved-deaths-related-harms on 2020, November 18.

[2] Substance Use Disorder Treatment Gap Analysis, New Mexico Department of Health, January 2020. https://www.nmhealth.org/publication/view/marketing/5596/

[3] Manuel Cano (2020) Drug Overdose Deaths Among US Hispanics: Trends (2000–2017) and Recent Patterns, Substance Use & Misuse, 55:13, 2138-2147, DOI: 10.1080/10826084.2020.1793367

12 Month Running Totals of Overdose Deaths by Drug Class, NM 2016-2022 (provisional)

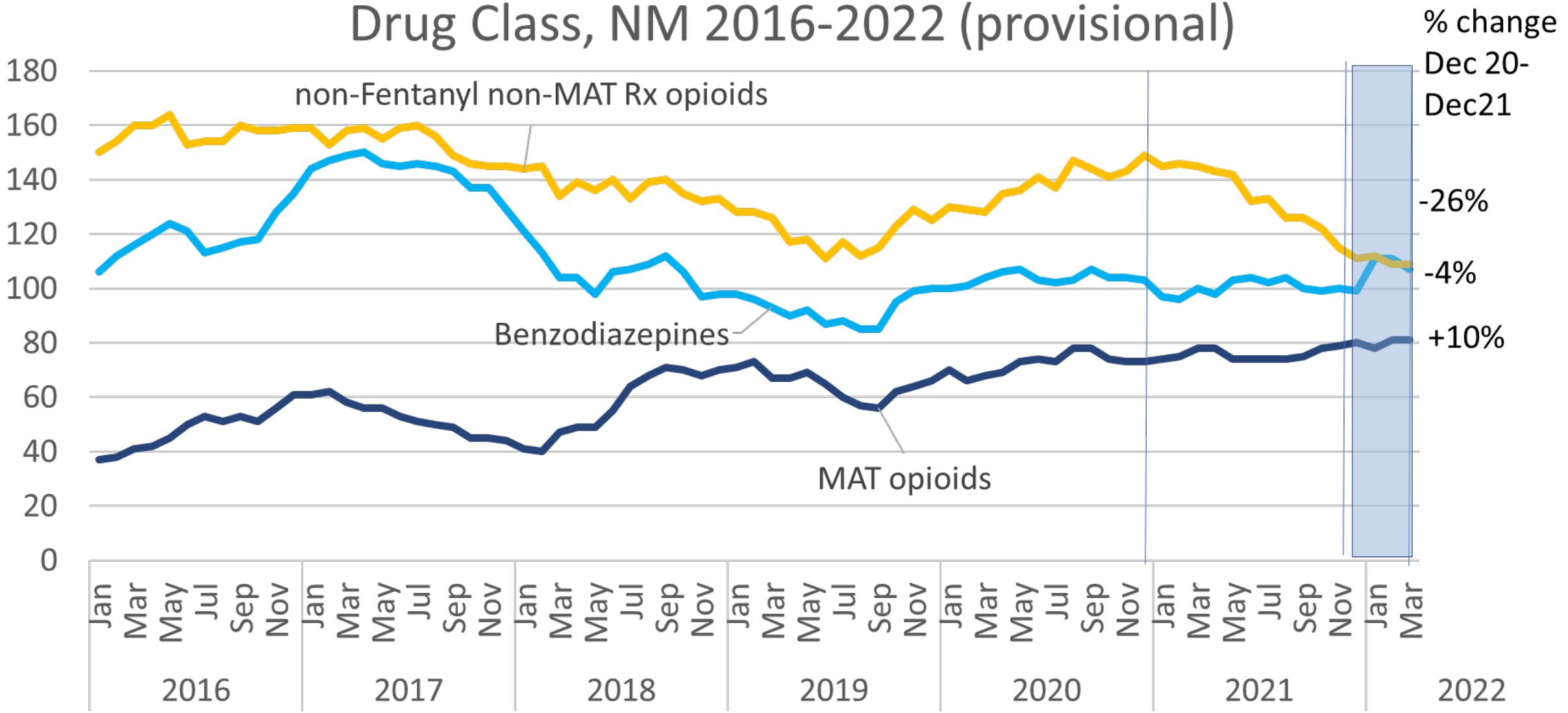


% change Dec20-Dec21

- Fentanyl and analogues: ↑ 84%
- Methamphetamine: ↑ 53%
- Heroin: ↓ 4%
- Non-fentanyl Rx Opioids: ↓ 13%
- Benzodiazepines: ↑ 6%
- Cocaine: ↓ 4%

Drug types are not mutually exclusive
Each point represents the sum of the prior 12 months
2021 data are provisional as of 8/15/22 and subject to change. Shaded blue area is provisional and less complete
Percentages are based on data between blue lines and subject to change
Source: NM DOH Bureau of Vital Records and Health Statistics death data

12 Month Running Totals of Rx Drug Overdose Deaths by Drug Class, NM 2016-2022 (provisional)



Each point represents the sum of the prior 12 months
Drug types are not mutually exclusive
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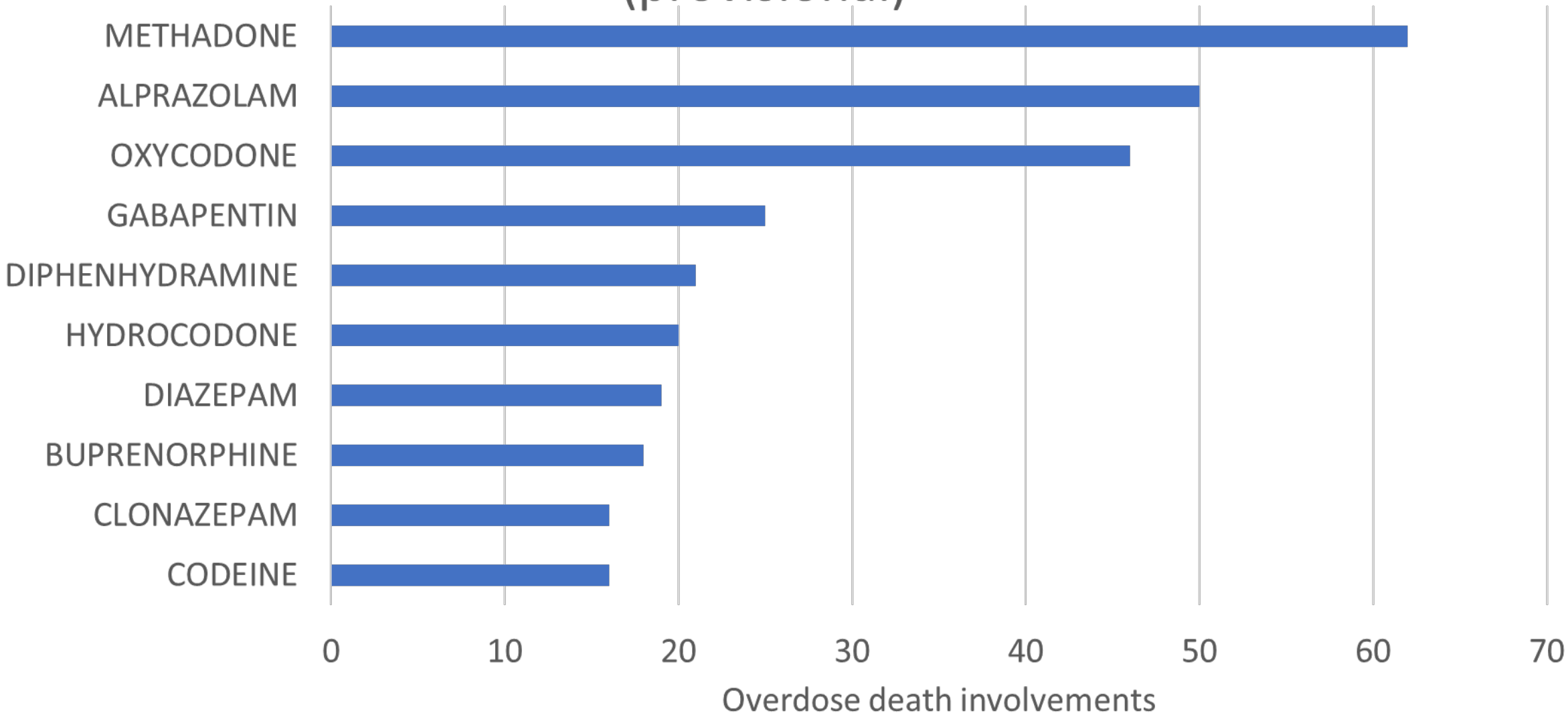
Source: NM DOH Bureau of Vital Records and Health Statistics death data

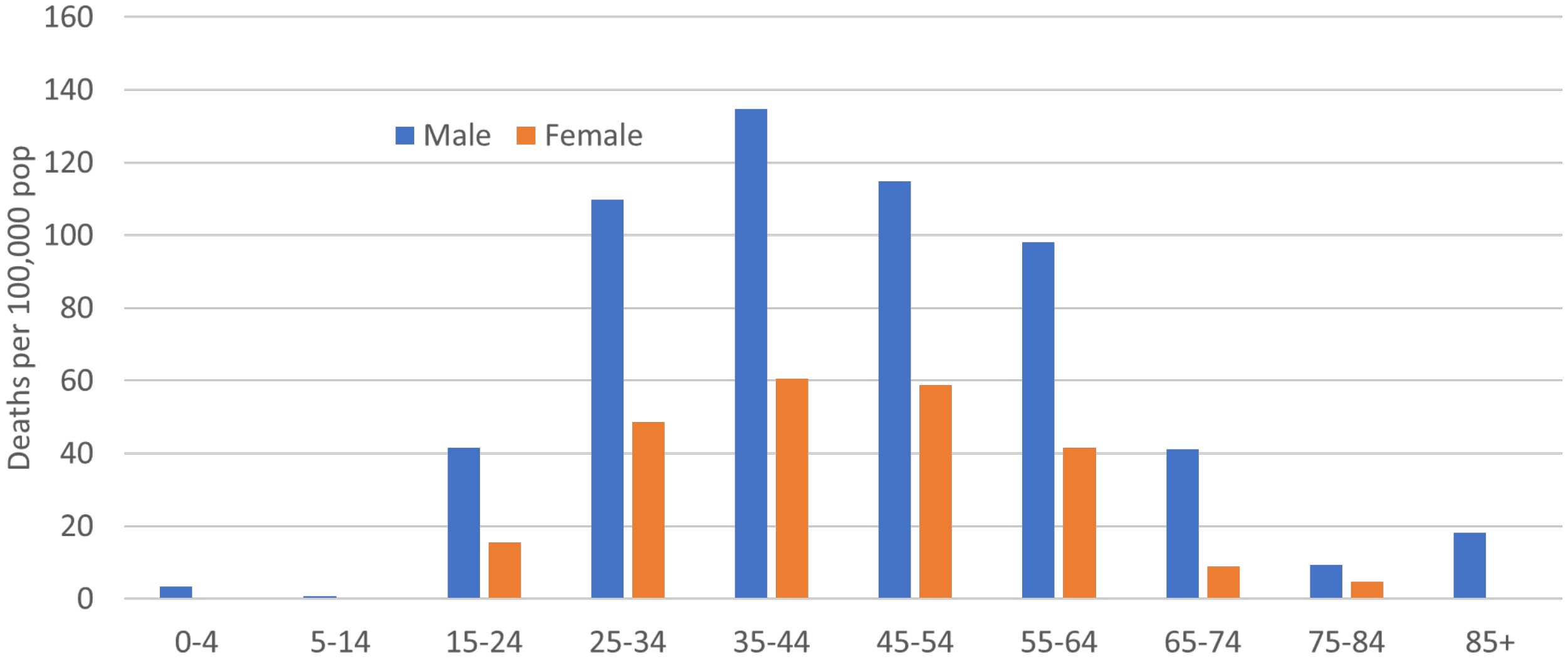
Top Prescription Drugs in Overdose Death, NM, 2021 (provisional)



Many deaths involve more than one drug

Source: NM DOH Bureau of Vital Records & Health Statistics Death Data

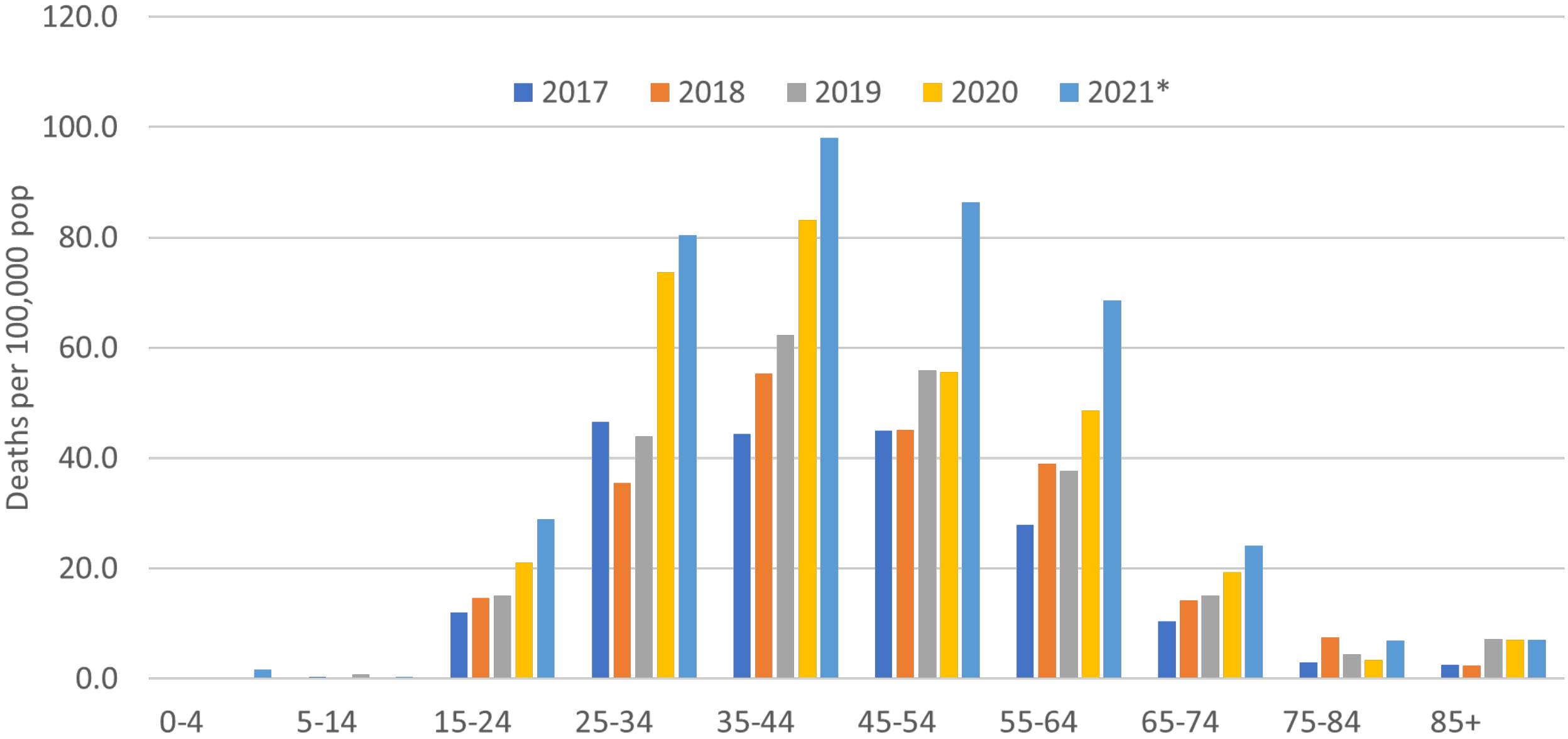
Drug Overdose Death Rates by Age & Sex, NM, 2021 (provisional)



2021 data provisional as of 9/14/2022

Source: NM DOH Bureau of Vital Records and Health Statistics death data

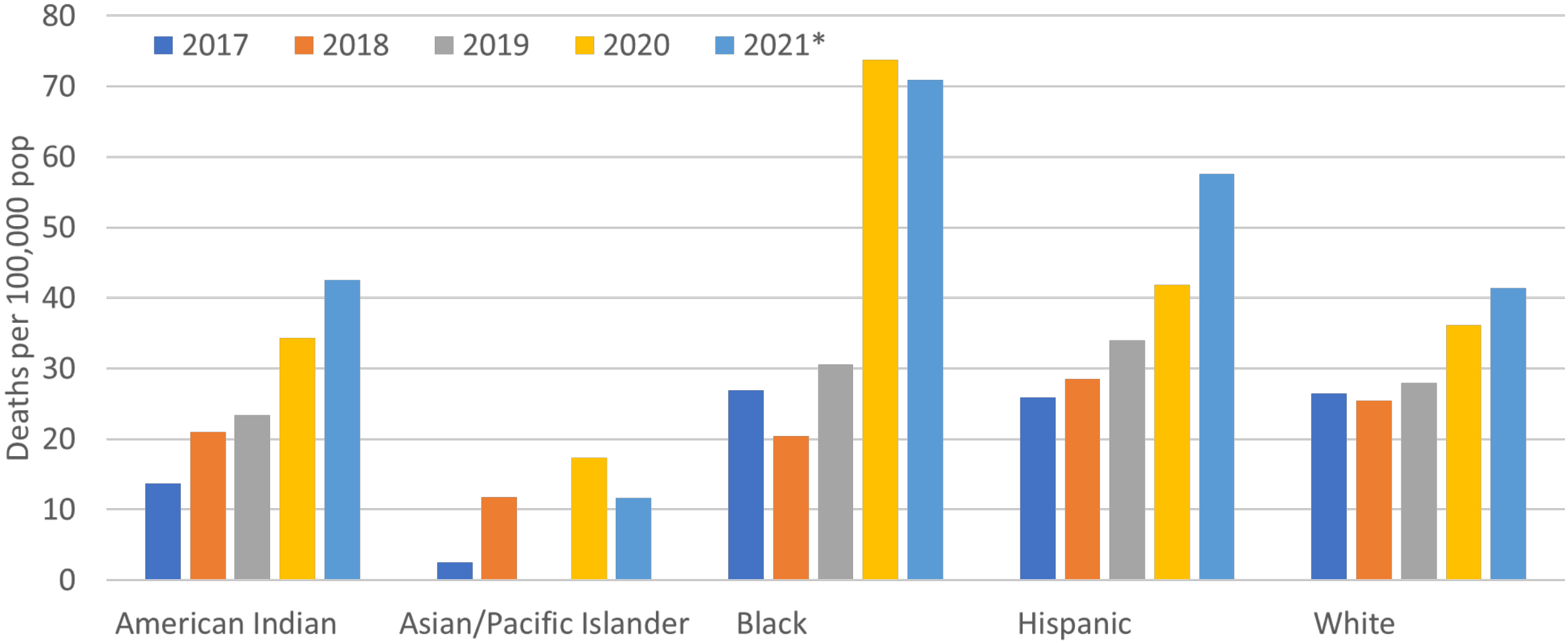
Drug Overdose Death Rates by Age & Year, NM, 2017-2021



*2021 data are provisional as of 9/14/22

Source: NM DOH BVRHS death data; UNM GPS population estimates

Drug Overdose Deaths Rates by Race/Ethnicity, NM, 2017-2021



2021 data are provisional as of 9/14/22
Death rates are age-adjusted to the US 2000 standard population
Source: NM DOH BVRHS death data

A tablet from one of my patients

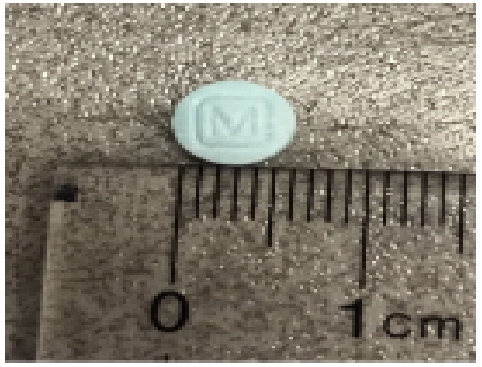
SAMPLE ANALYSIS REPORT

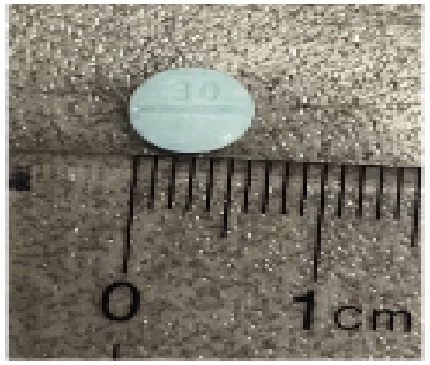
Date: 8/11/2021
Date Samples Submitted: 7/1/2021
Contract: Samples Analyzed for the Drug Enforcement Administration (DEA) (contract #: 15DDHQ19F0000086)
Sample Origin: Santa Fe Medical Center, Santa Fe, NM
Testing Requested: Comprehensive Drug Analysis
Analytical Platform: LC-Quadrupole Time-of-Flight Mass Spectrometer (Agilent LC1260- QTOF/MS 6550)

Drug Product received 7/1/2021:

Description: Light blue and pressed to mimic "Percocet 30" pill, with "M" enclosed in a square pressed into one side and "30" pressed into the other side above a half-marking indentation. 104.8mg mass.

Images (front and back of same pill):





Analytical Results:

Drug Observed	Total Quantity in Tablet	% of total tablet mass
Acetaminophen	46 mg	44%
Fentanyl	0.84 mg	0.80%
4-ANPP	65 µg	0.062%
Benzyl Fentanyl	8.7 µg	0.0083%
para-Fluoro Fentanyl	1.4 µg	0.0013%
Acryl Fentanyl	Trace Amounts Observed	
Cocaine	Trace Amounts Observed	

otes:

Drug libraries used in analysis:

Comprehensive Drug Library consisting of 910 New Psychoactive Substances, 161 Drugs of Abuse, 15 Bioactive Dietary Supplements, and 92 Prescription Drugs.

Street Fentanyl per the DEA:

https://www.dea.gov/resources/facts-about-fentanyl

- DEA analysis has found counterfeit pills ranging from .02mg (200mcg) to 5.1mg (5,000mcg) of fentanyl per tablet
- 42% of pills tested for fentanyl contained at least 2 mg of fentanyl

Thus:

- Patients may take pills without knowing they contain fentanyl.
- And patients using fentanyl have no way of knowing the dose they are using (… Russian Roulette)
- Drug trafficking organizations typically distribute fentanyl by the kilogram
  - One kilogram of fentanyl has the potential to kill 500,000 people

Illicit “blue” fentanyl

Patient Experiences:

- Some initially think they got a good deal on oxycodone … (~ $10 vs. $30)
  - (and some had near fatal overdoses with first use)
- Initially swallow them, quickly transition to crushing and “snorting”
- Soon transition to “smoking” -- initially ¼ tablet at a time
  - Then progress to smoking >2 tablets per use
- Use often progresses from using < 1 tablet/day to smoking 5, 6, 10+ per day over a few months, or over a few weeks
  - Some patients report smoking 20, 30, even 50+ tablets per day
- Smoking 20 tabs/day = injecting IV ~ 16,000 mcg to 32,000+ mcg fentanyl/day
- Smoking 50 tabs/day = injecting IV ~ 50,000 mcg to 80,000+ mcg fentanyl/day

In 1996, France responded to its heroin overdose epidemic by training GP's to prescribe buprenorphine

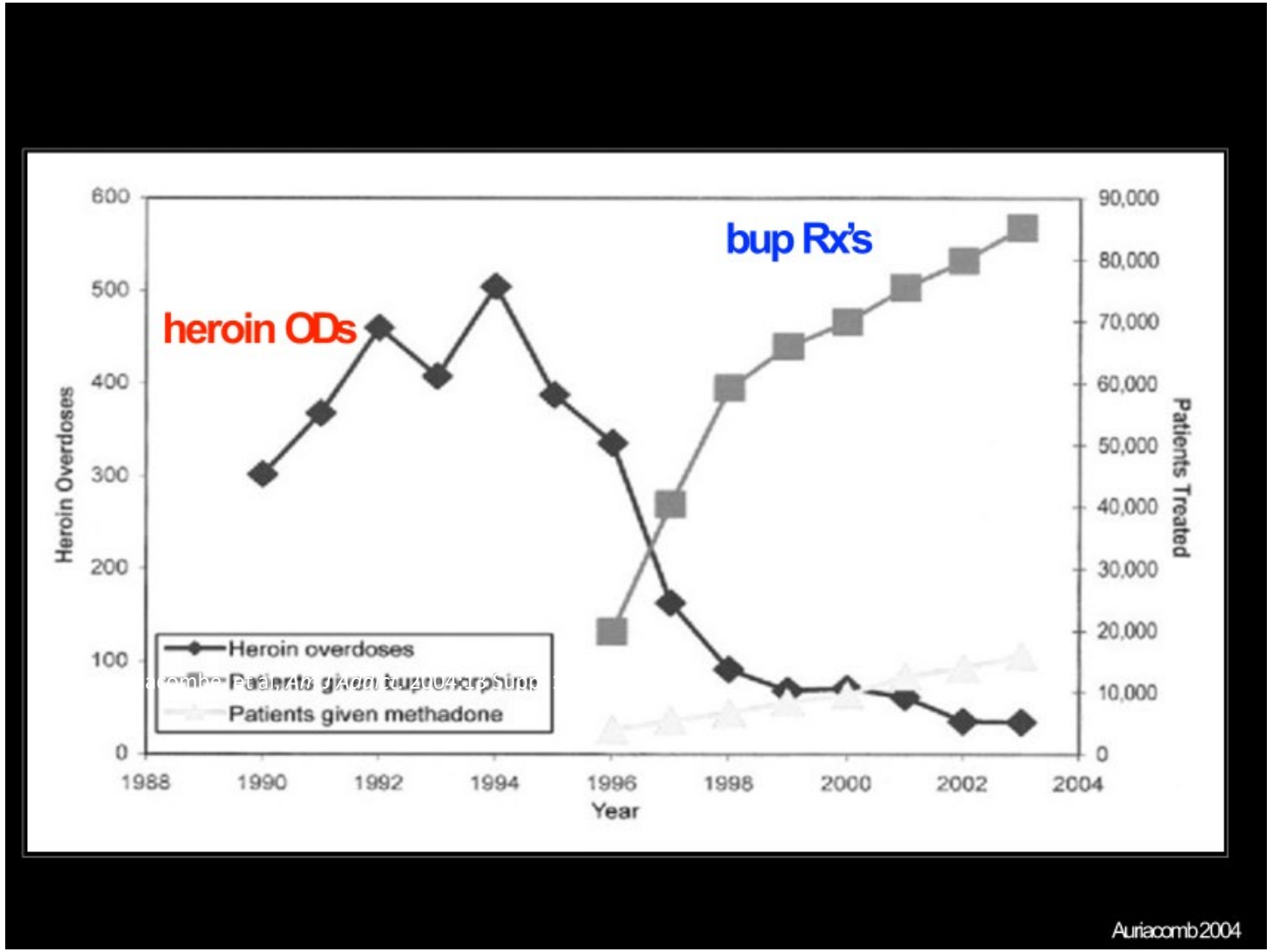
Over 8 years….

3x increase methadone treated patients (~15K pts)

+

4.5x increase in buprenorphine treated pts (~90K pt)

<u>90% reduction in heroin overdoses!!</u>



Opioid Agonist Therapy is Much More Effective than Drug Counseling Alone!!

Swedish Study:

- 40 patients, all heroin users, randomized
- Daily supervised med administration for the first 6 months

Retention at 1 year:

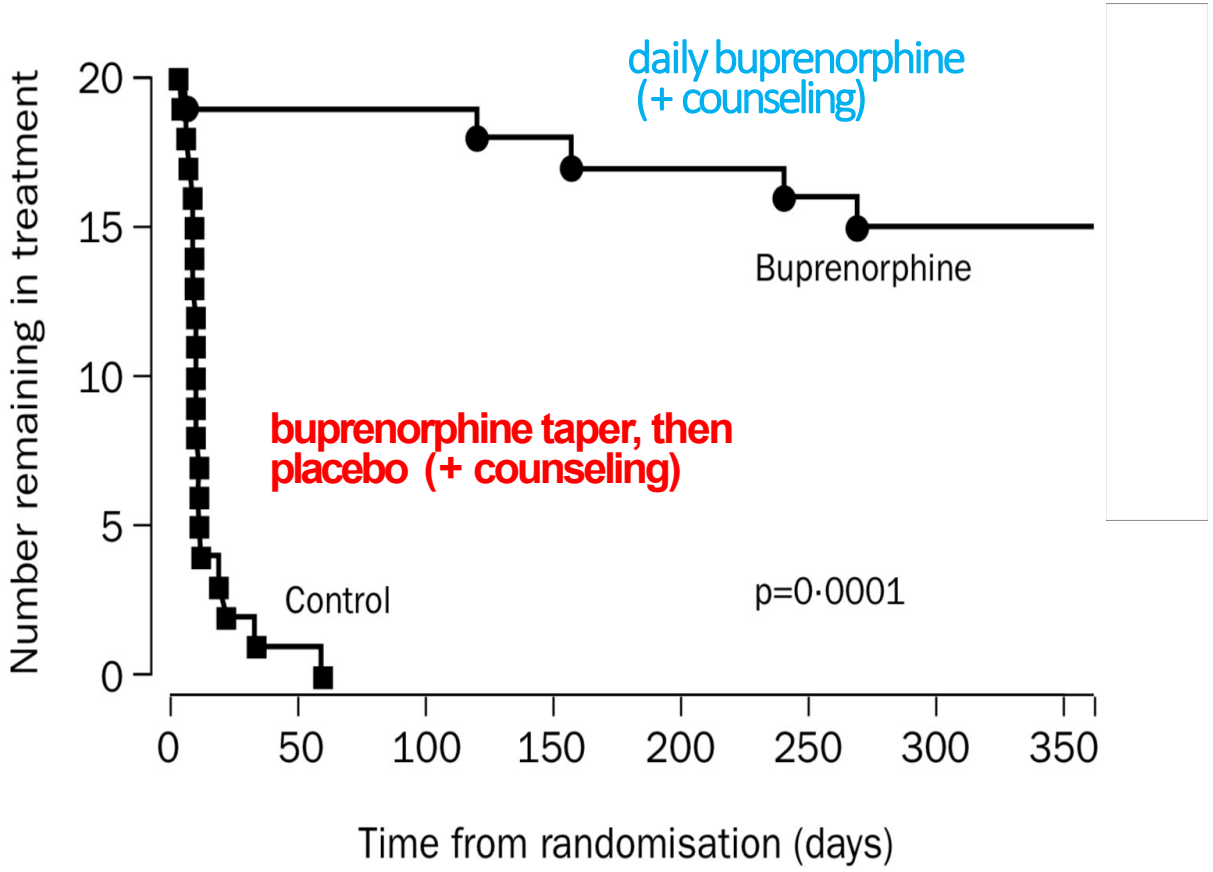
75% in the buprenorphine group!

0% in the placebo group

1 year Mortality:

0% in the buprenorphine group!

20% in the placebo group



Kakko, et al, Lancet. 2003 Feb 22;361(9358):662-8.