

## **Polysubstance Use:**

# **A broader understanding of substance use during the opioid crisis**

Matthew S. Ellis, PhD(c)  
Department of Psychiatry  
School of Medicine  
Washington University in St. Louis  
[ellism@wustl.edu](mailto:ellism@wustl.edu)

No conflicts of interest to disclose

# Opioid Trends

# Survey of Key Informants' Patients (SKIP) Program

- SKIP

- ~120 nationally distributed opioid treatment programs in each program
- Variety of public and private non-methadone programs (e.g. community programs, buprenorphine providers, inpatient/residential programs, outpatient counseling)

- Analyses

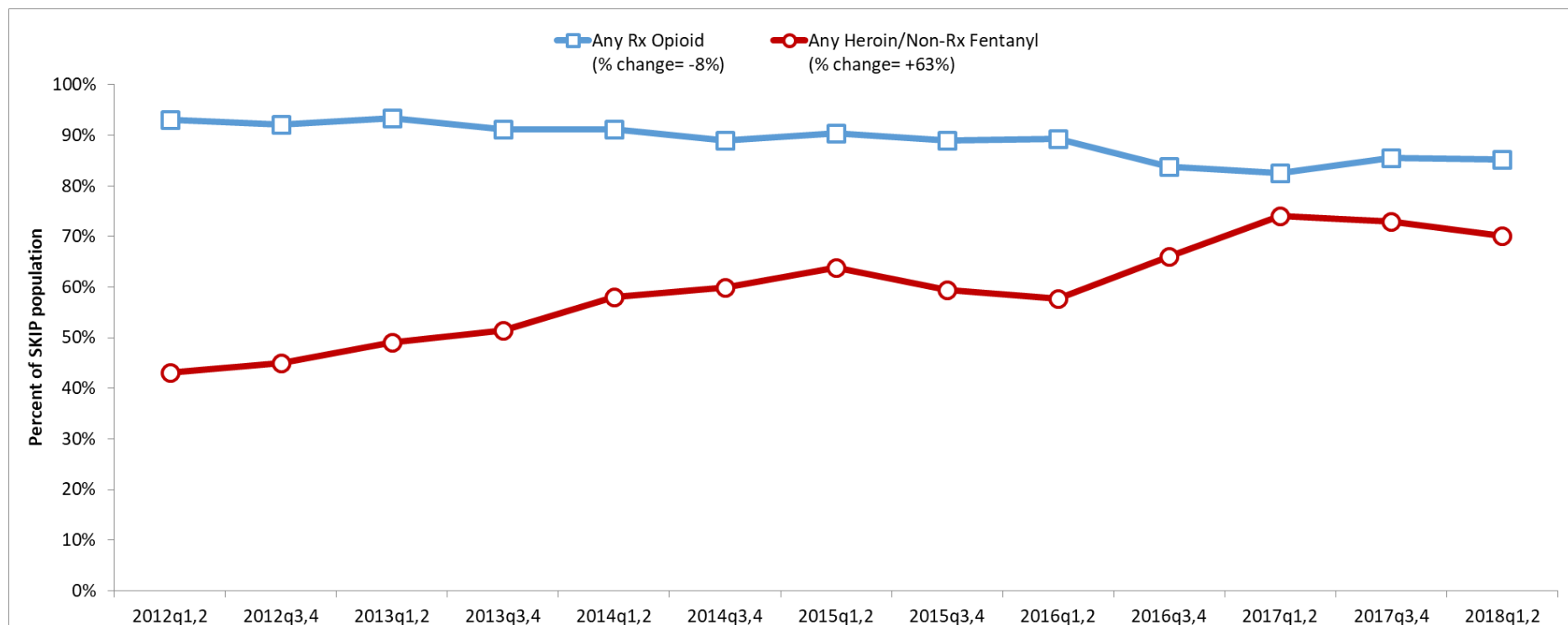
- Polyopioid and polysubstance use trends from 2012 to 2018
- SKIP, n=14,579

- Citation

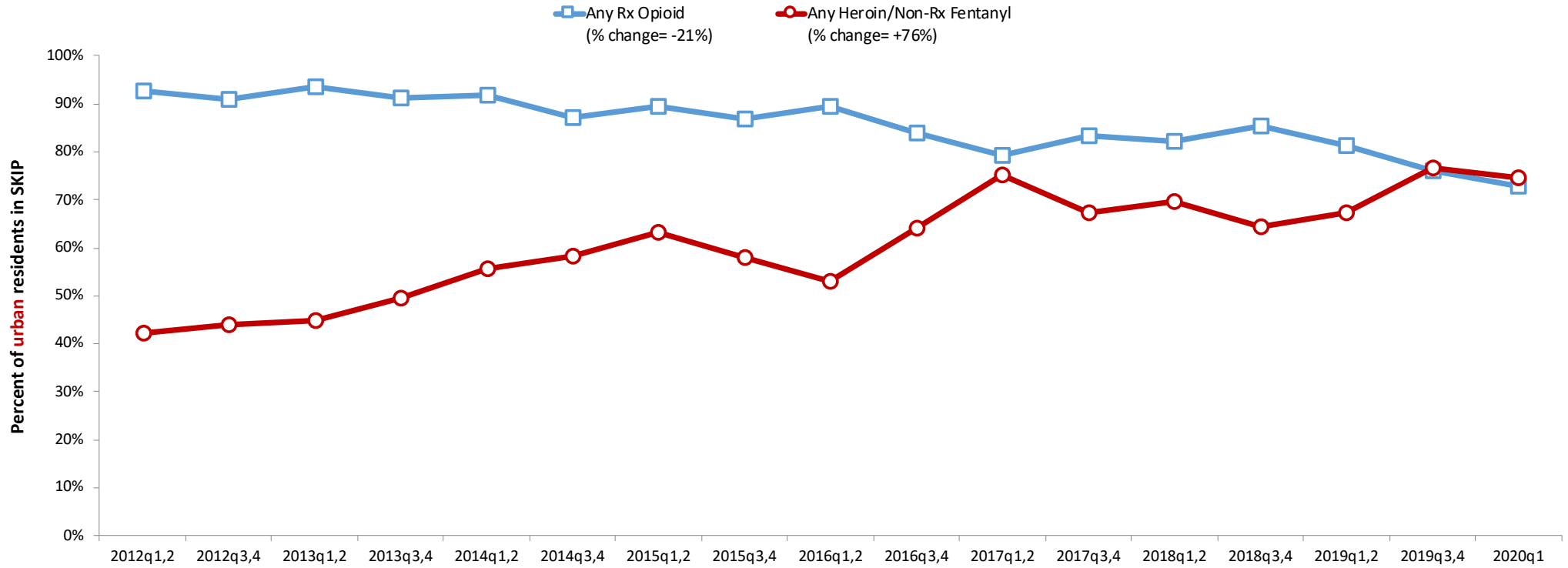
- Cicero TJ, Ellis MS, Kasper ZA. Polysubstance Use: A Broader Understanding of Substance Use During the Opioid Crisis. Am J Public Health. 2020 Feb;110(2):244-250.



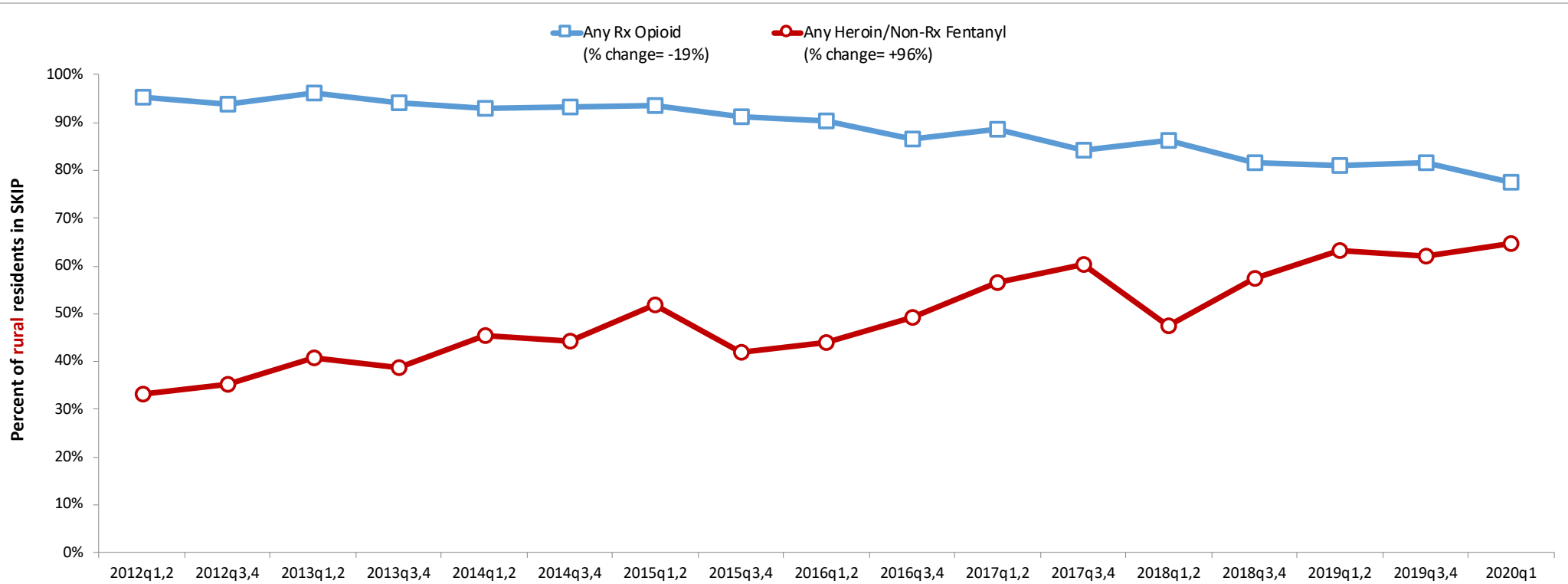
# National



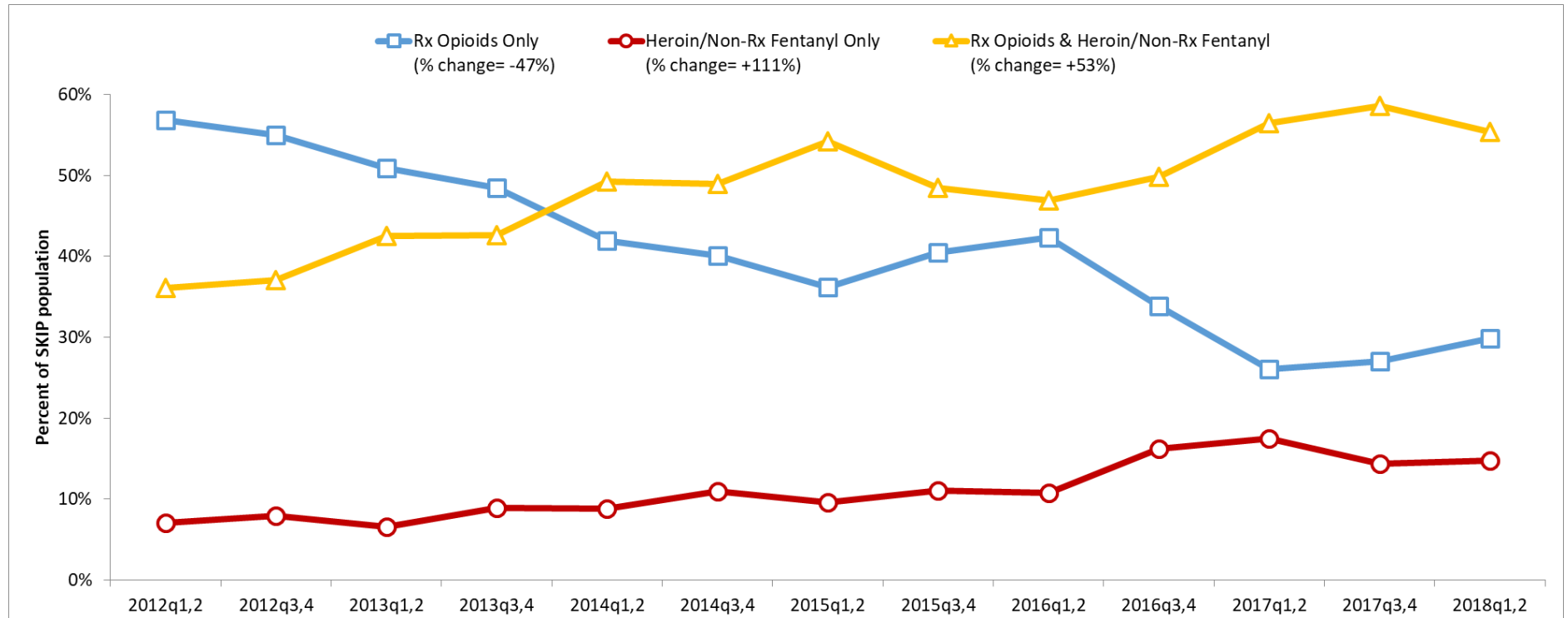
# Urban



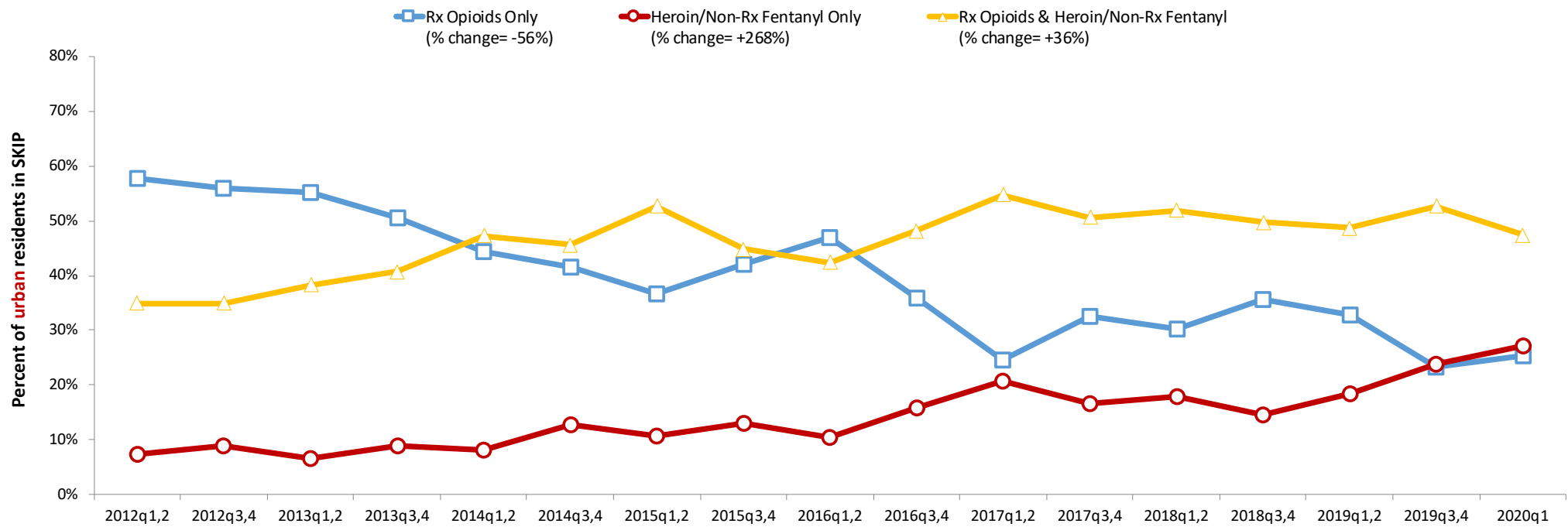
# Rural



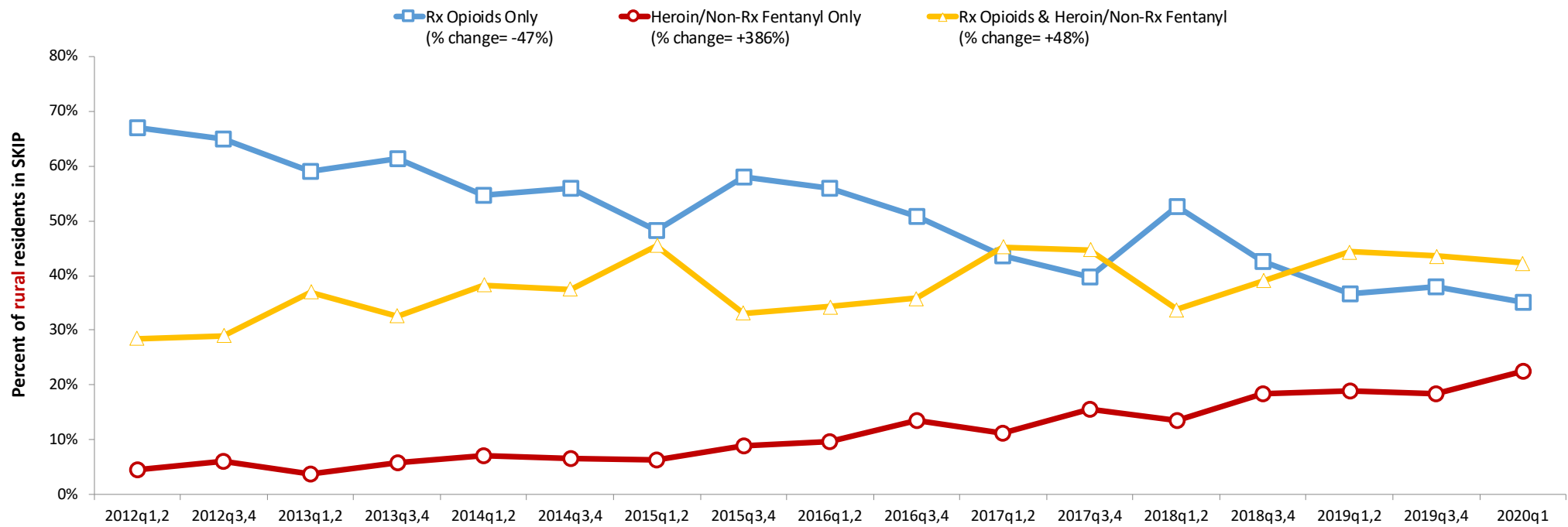
# National



# Urban

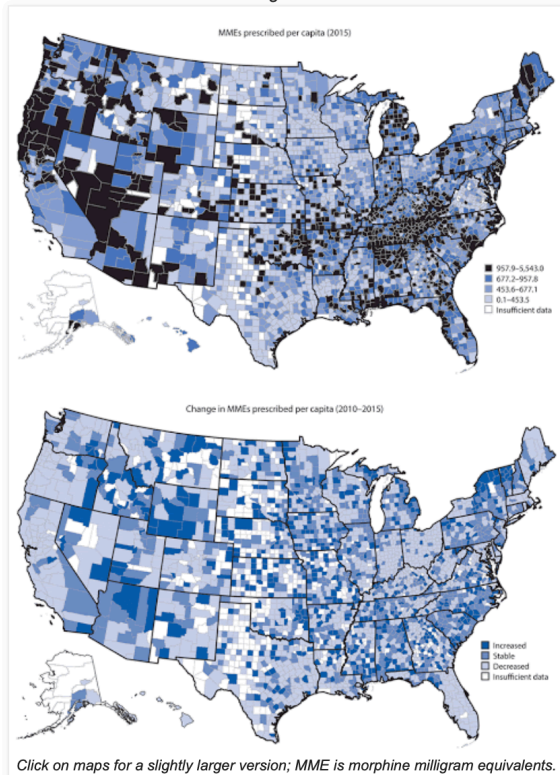


# Rural



## Opioid-prescription rate fell, but rose in rural areas; CDC study has county-by-county maps

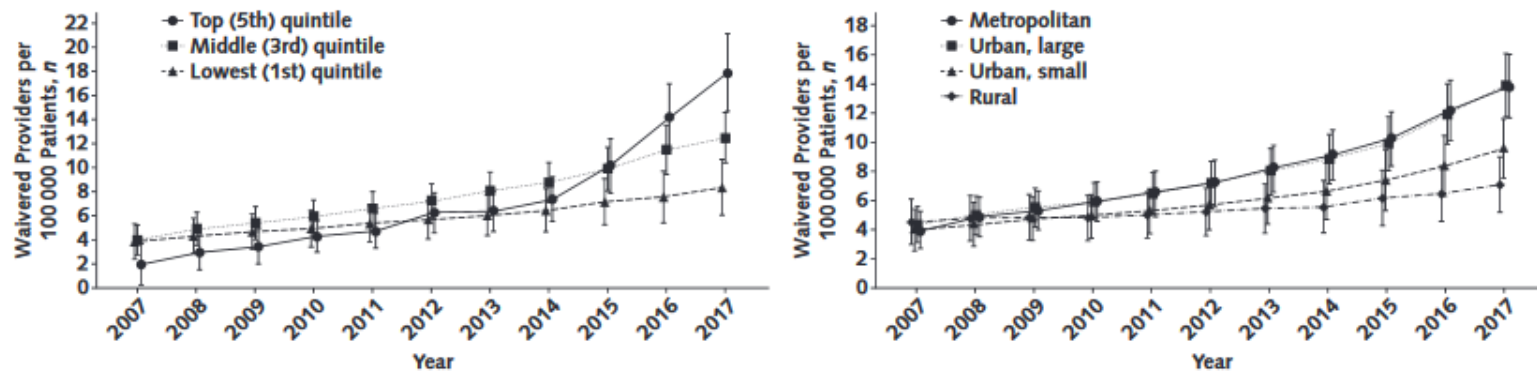
Opioid-prescription rates fell recently, but continued to increase in more than half of U.S. counties, the federal Centers for Disease Control and Prevention says in a report that includes county-by-county maps showing ranges of prescription rates and whether the rates have increased or decreased since 2010. The national rate was still three times as high as it was in 1999.



## Rural Areas

- Fewer options for pain mngmt
- Less resources/personnel
- Healthcare provider differences
- Individual barriers

Figure. Waivered providers, by overdose death rate (left) and rurality (right).



Left. Error bars represent 95% CIs. Quintiles represent rate of opioid overdose deaths per 100 000 persons in the previous year. Estimates are based on conditional standardization from regression analysis, with covariates set to median values within respective quintiles. Right. Estimates are based on conditional standardization from regression analysis, with covariates set to median values within respective rurality classifications.



**Table 1**  
Facilitators and barriers to MOUD capacity and use

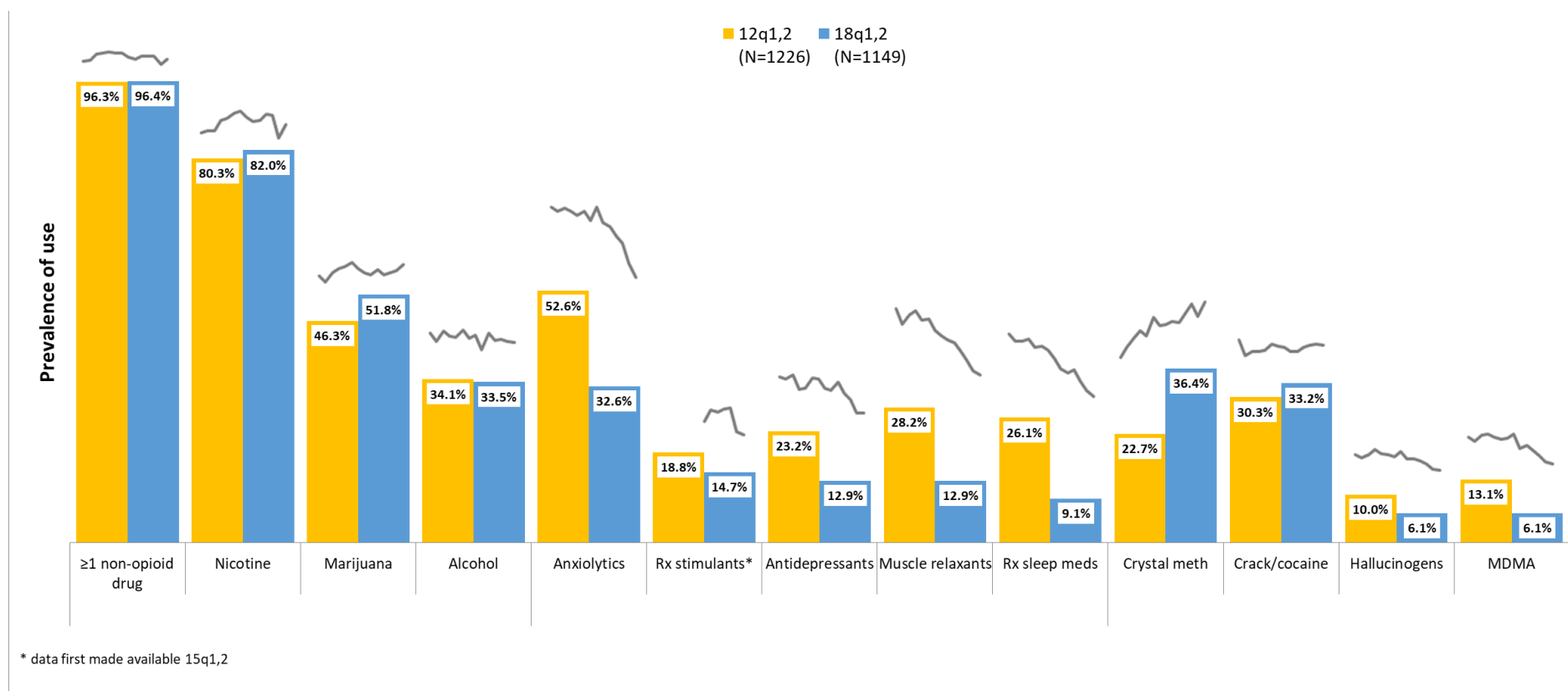
	<b>Facilitators</b>	<b>Barriers</b>
Capacity	Policies (e.g., 2017 expansion of buprenorphine prescribing privileges to APRNs) Outreach (e.g., marketing campaigns) Support from local institutions (e.g., criminal justice systems) Certification (e.g., ability to increase prescriber slots) Funding (e.g., ability to access state grants for MAT provision) Staffing (e.g., ability to recruit MAT prescriber)	Negative attitudes toward MAT (e.g., on the part of counselors) Certification (e.g., reluctance of prescribers to complete certification tasks) Funding (e.g., singular focus on MAT costs) Staffing (e.g., unable to recruit MAT-friendly counselors)
Use	Funding (e.g., ability to bill private insurance for MAT provision) Outreach (e.g., public education designed to increase awareness of MAT availability) Partnerships with local institutions (e.g., establishing referral mechanism with the local emergency department)	Funding (e.g., inability to develop revenue streams to defray MAT costs) Staffing (e.g., inability to fully staff MAT program) Negative attitudes (e.g., the community rejects MAT philosophy) Lack of referrals (e.g., highly competitive environment for service providers) Patient issues (e.g., high attrition among patients admitted to MAT program)

Table. Monthly Patient Census Among Active Clinicians Prescribing Buprenorphine for Opioid Use Disorder From April 2017 to January 2019

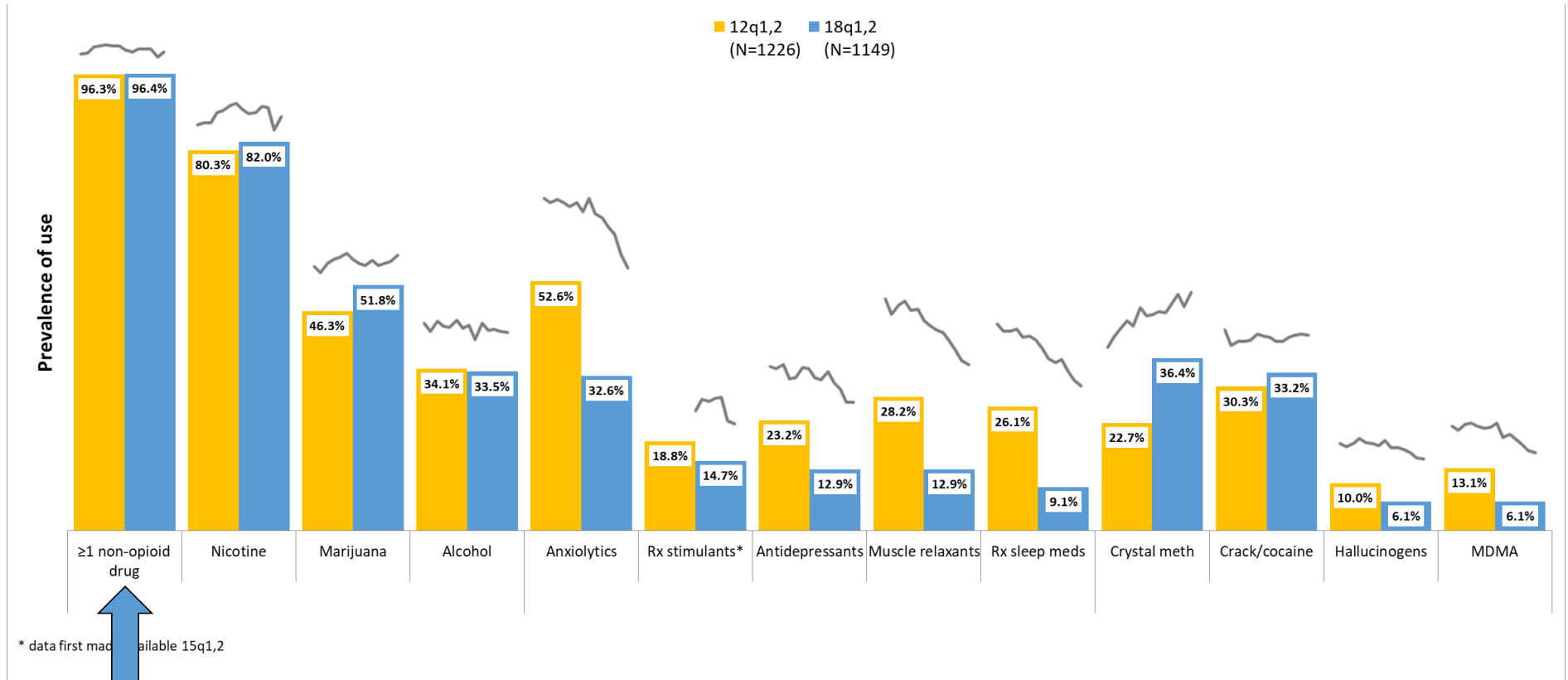
Patient limit	Waivered clinicians, No.	Active clinicians, No. (%)	Monthly patient census, median	Monthly patient census, percentile			
				10th	25th	75th	90th
30	42 508	16 525 (38.9)	3.4	1.0	1.3	9.6	21.6
100	8923	7504 (84.1)	23.9	2.0	7.2	55.4	99.6
275	4507	4419 (98.0)	101.5	16.1	48.3	171.5	257.3
Total clinicians	55 938	28 448 (50.9)	8.3	1.0	2.1	35.9	105.7

# Polysubstance Use

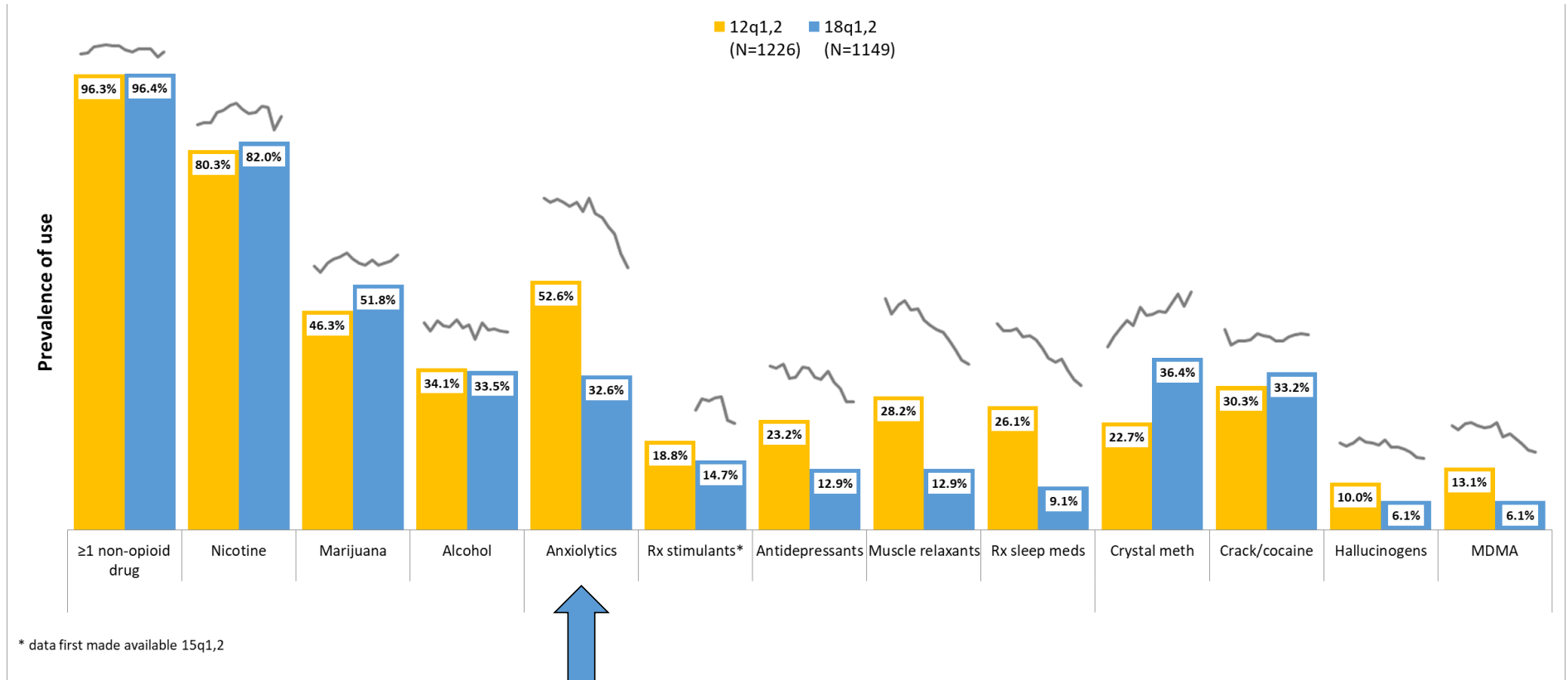
## Past month use of non-opioid drugs, SKIP 2012/2018



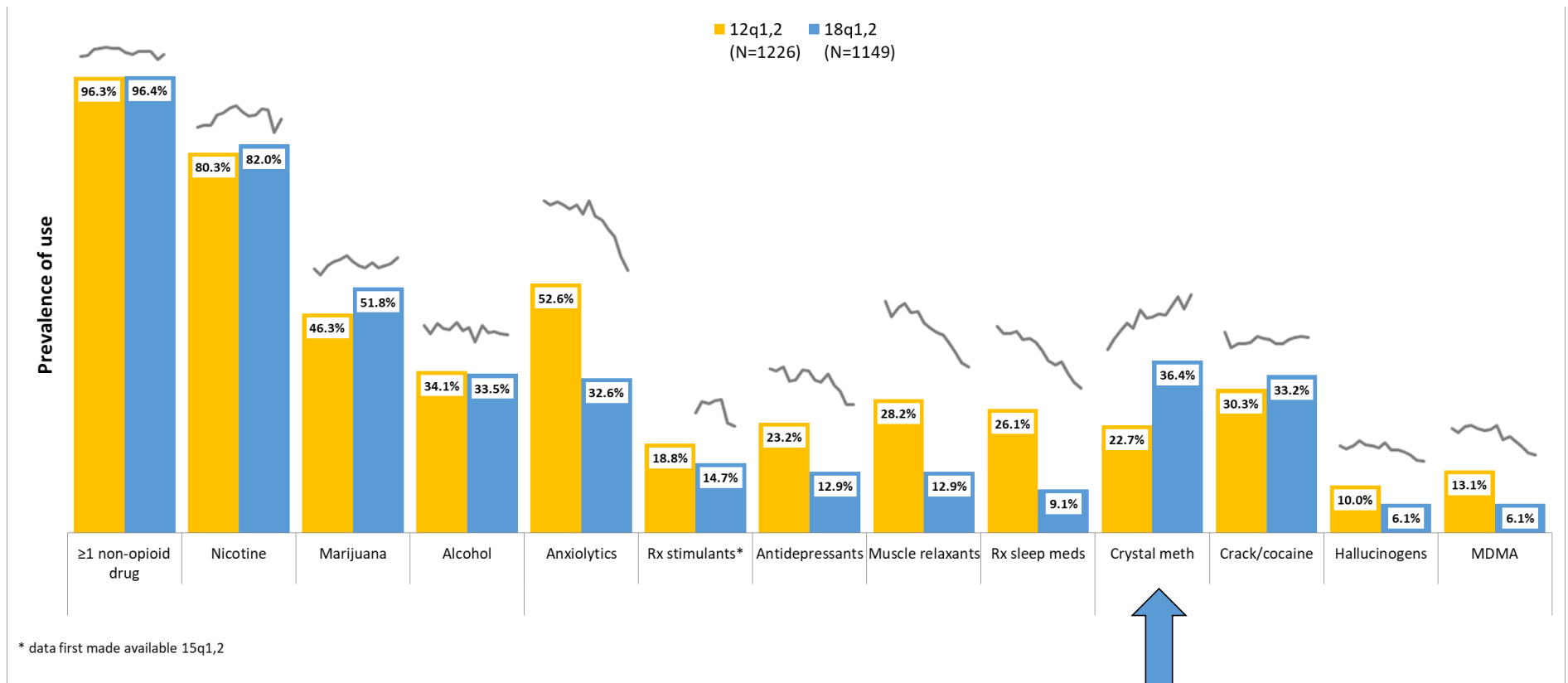
## Past month use of non-opioid drugs, SKIP 2012/2018

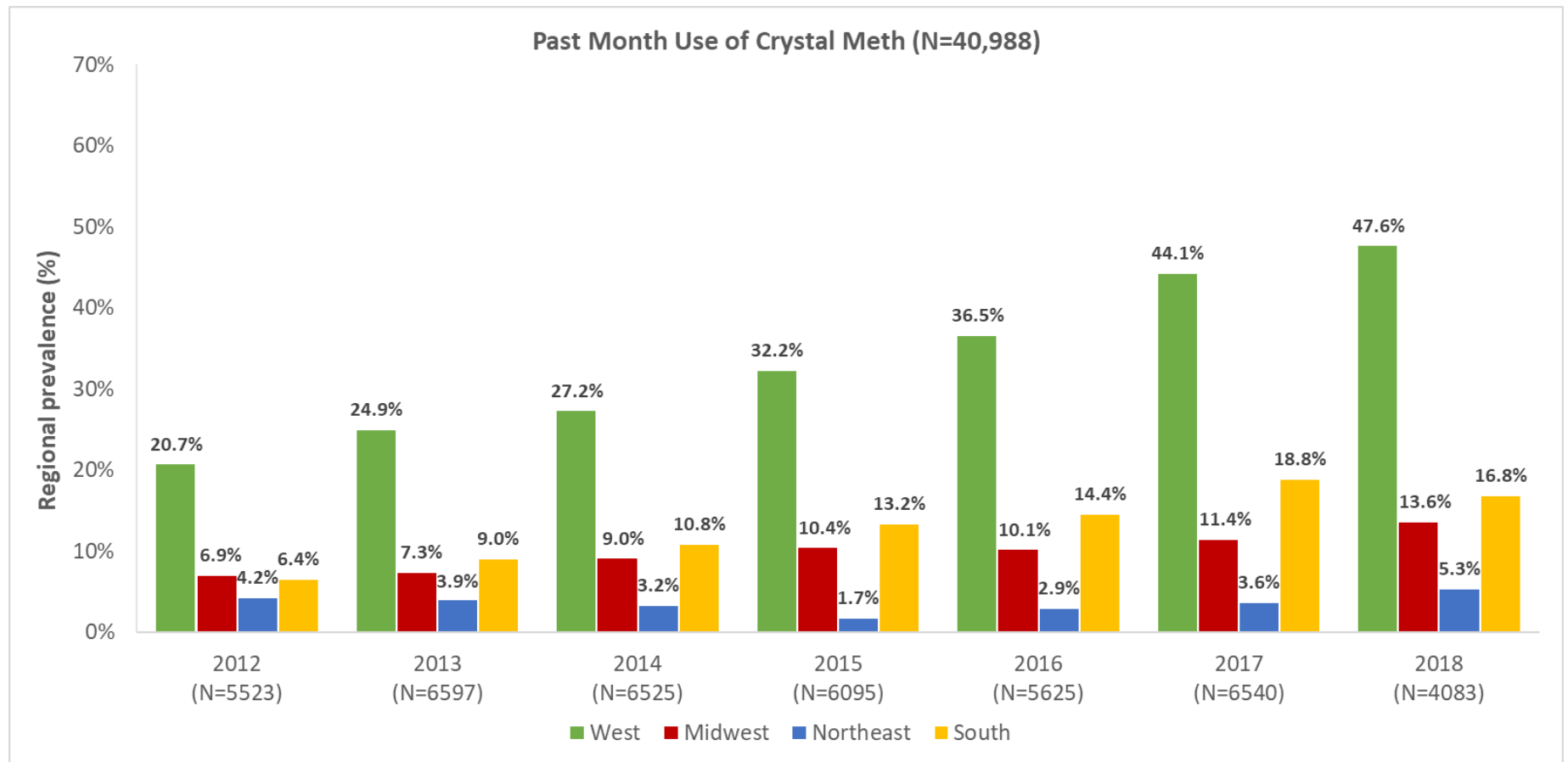


## Past month use of non-opioid drugs, SKIP 2012/2018



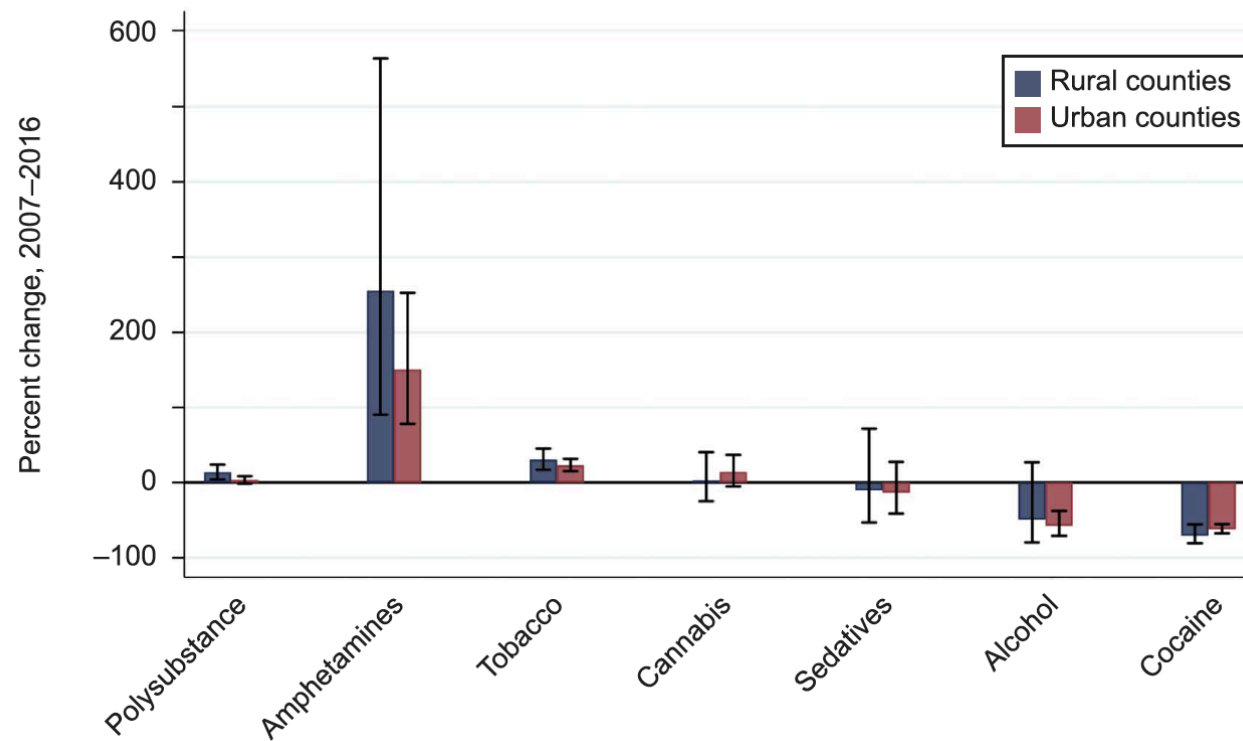
## Past month use of non-opioid drugs, SKIP 2012/2018



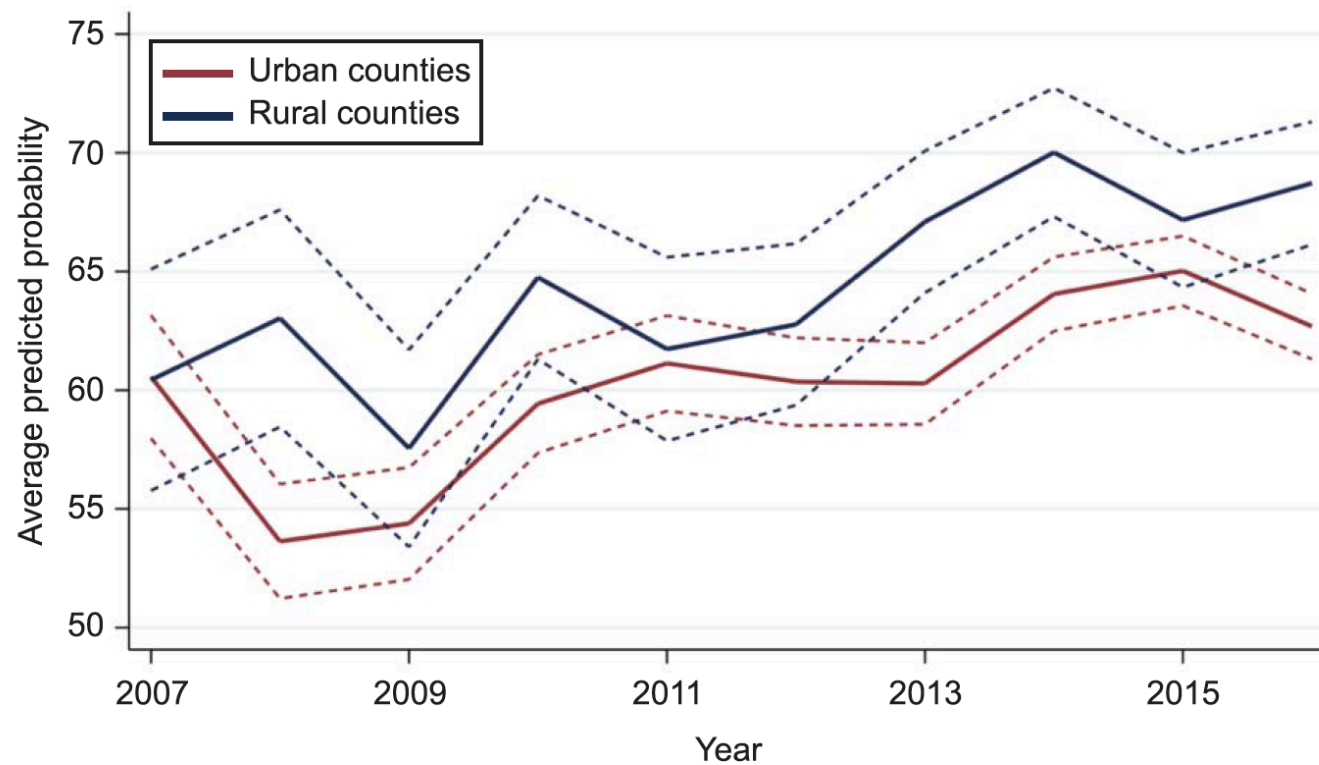




## Polysubstance use in pregnant women with OUD



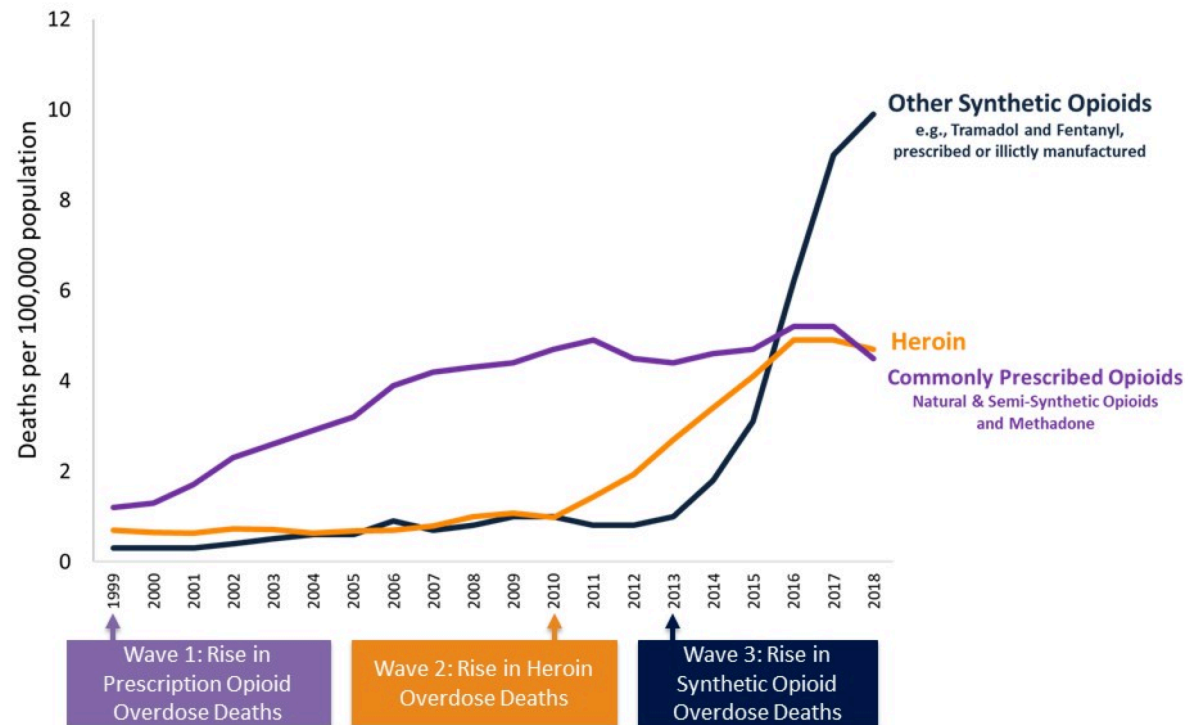
## Polysubstance use in pregnant women with OUD



# Opioid and Stimulant Trends: The Fourth Wave

# Overdose deaths

## 3 Waves of the Rise in Opioid Overdose Deaths



# Introduction

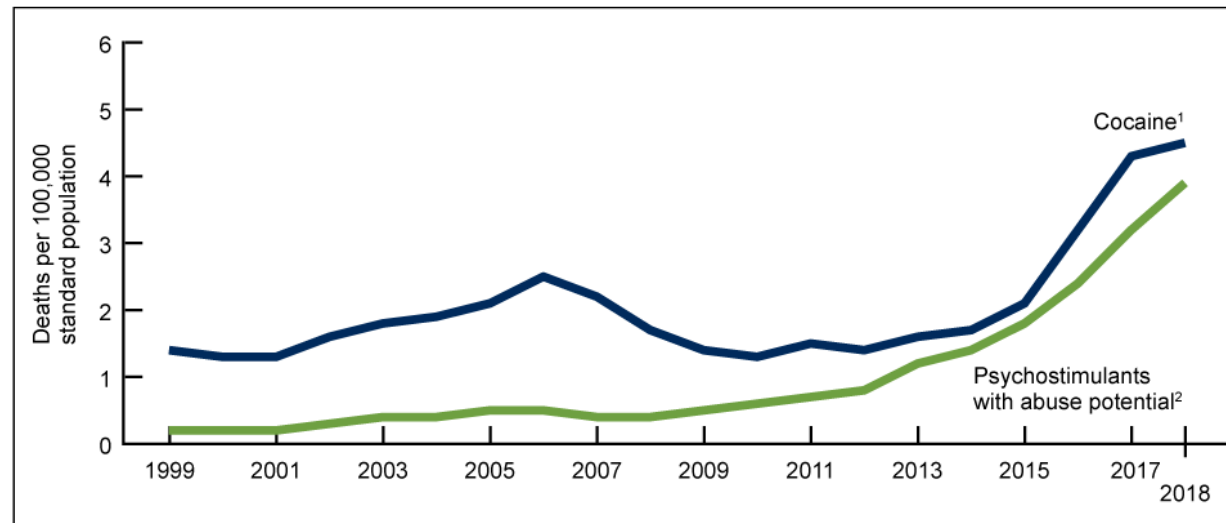
Methamphetamine versus Cocaine

Methamphetamine	Cocaine
Stimulant	Stimulant and local anesthetic
Man-made	Plant-derived
Smoking produces a long-lasting high	Smoking produces a brief high
50% of the drug is removed from the body in 12 hours	50% of the drug is removed from the body in 1 hour
Increases dopamine release and blocks dopamine re-uptake	Blocks dopamine re-uptake
Limited medical use for ADHD, narcolepsy, and weight loss	Limited medical use as a local anesthetic in some surgical procedures

NIDA. 2020, May 29. Overview. Retrieved from <https://www.drugabuse.gov/publications/research-reports/methamphetamine/overview>

# Overdose deaths

Figure 4. Age-adjusted drug overdose death rates involving stimulants, by type of stimulant: United States, 1999–2018



<sup>1</sup>Significant increasing trend from 1999 through 2006, decreasing trend from 2006 through 2012, and increasing trend from 2012 through 2018 with different rates of change over time,  $p < 0.05$ .

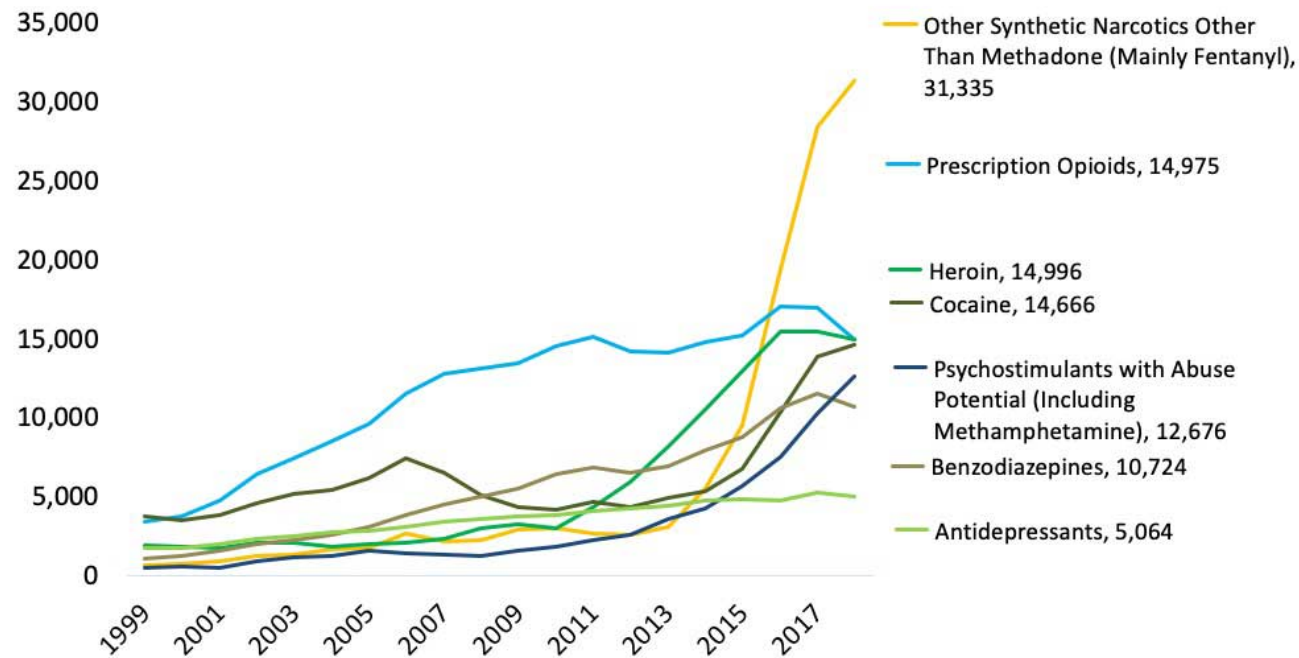
<sup>2</sup>Significant increasing trend from 1999 through 2005, 2008 through 2012, and 2012 through 2018 with different rates of change over time,  $p < 0.05$ .

NOTES: Deaths are classified using the *International Classification of Diseases, 10th Revision*. Drug-poisoning (overdose) deaths are identified using underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Drug overdose deaths involving selected drug categories are identified by specific multiple-cause-of-death codes: cocaine, T40.5; and psychostimulants, T43.6. Deaths may involve multiple drugs. The percentage of drug overdose deaths that identified the specific drugs involved varied by year, with ranges of 75%–79% from 1999 through 2013 and 81%–92% from 2014 through 2018. Access data table for Figure 4 at: [https://www.cdc.gov/nchs/data/databriefs/db356\\_tables-508.pdf#4](https://www.cdc.gov/nchs/data/databriefs/db356_tables-508.pdf#4).

SOURCE: NCHS, National Vital Statistics System, Mortality.

Hedegaard H, Miniño AM, Warner M. Drug overdose deaths in the United States, 1999–2018. NCHS Data Brief, no 356. Hyattsville, MD: National Center for Health Statistics. 2020.

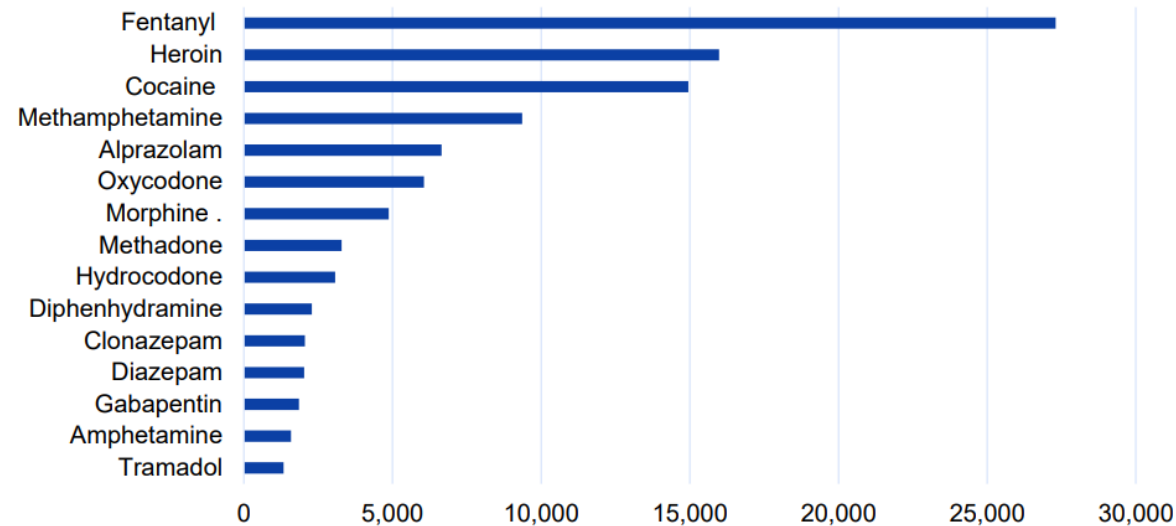
# Overdose deaths



Source: : Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2018 on CDC WONDER Online Database, released January, 2019

# Overdose deaths

## Top 15 drugs involved in drug overdose deaths, United States, 2017



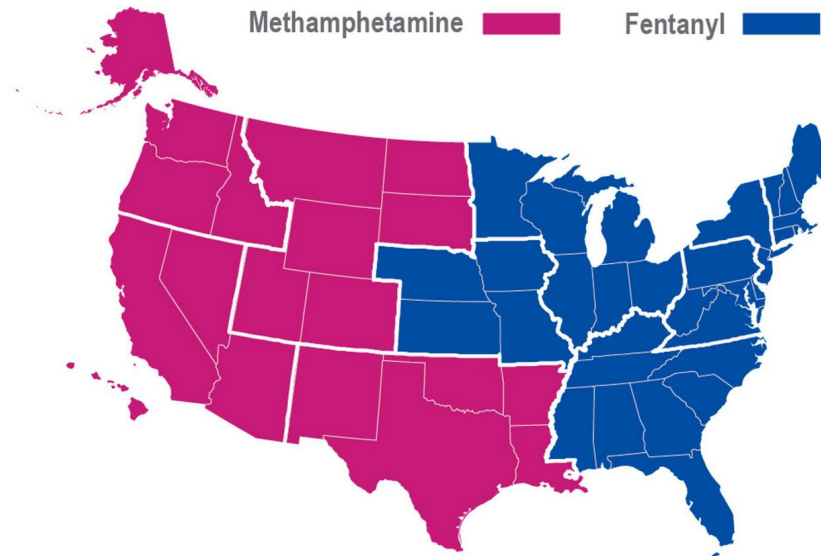
Source: Hedegaard H, Bastian BA, Trinidad JP, Spencer M, Warner M. Drugs most frequently involved in drug overdose deaths: United States, 2011–2016. National Vital Statistics Reports; vol 67 no 9. Hyattsville, MD: National Center for Health Statistics. 2018. [https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67\\_09-508.pdf](https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_09-508.pdf); [https://www.radars.org/system/events/RADARS%20System%202020%20Annual%20Meeting\\_Warner.pdf.tmp](https://www.radars.org/system/events/RADARS%20System%202020%20Annual%20Meeting_Warner.pdf.tmp)



# Overdose deaths: Regionality

## Drug overdose deaths by region

Methamphetamine was the top drug involved in overdose deaths in most of the western half of the U.S. while fentanyl pervaded the eastern half.



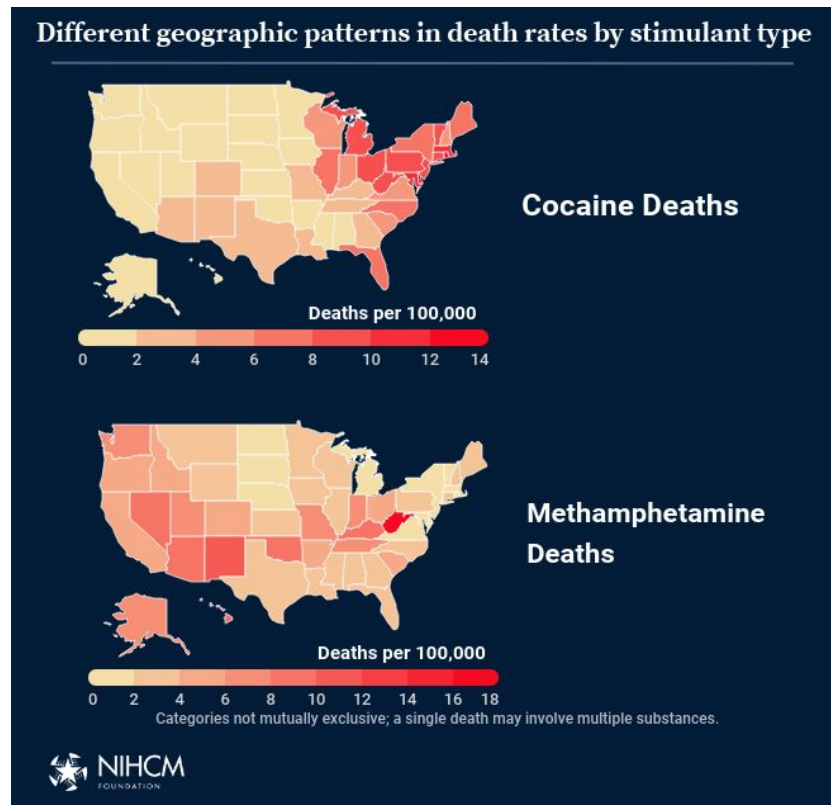
NOTE: Data from 2017. Deaths may include additional drugs.

SOURCE: NCHS National Vital Statistics System

AP

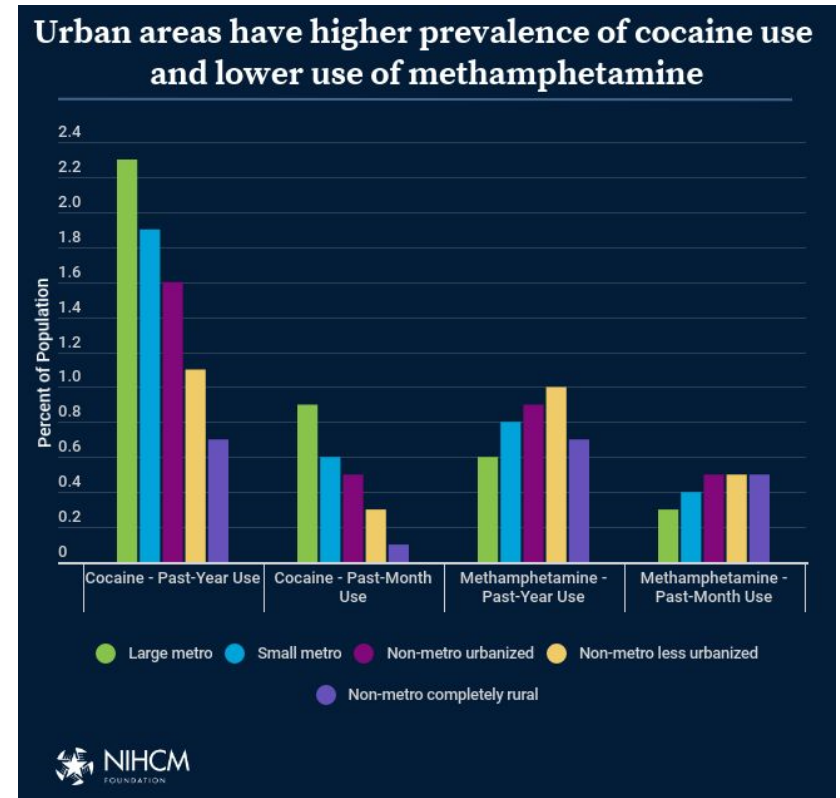
Stobbe, Mike. Meth is most common drug in overdose deaths in chunk of US. AP News October 24, 2019. <https://apnews.com/f57bbc469d9f47519f373ee932cfb8a2>

# Overdose deaths: Regionality



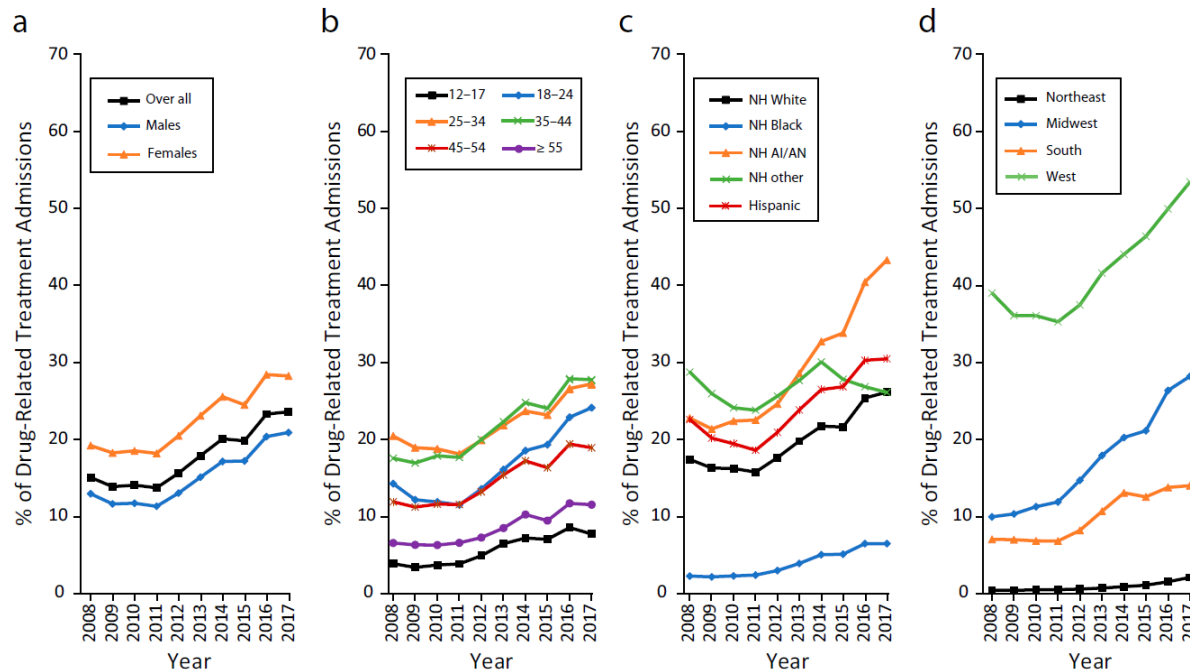
NIHCM. May 2020. Beyond Opioids: Rapid Increase in Drug Deaths Involving Stimulants. <https://www.nihcm.org/categories/beyond-opioids-rapid-increase-in-drug-deaths-involving-stimulants>

## Overdose deaths: Urbanicity



NIHCM. May 2020. Beyond Opioids: Rapid Increase in Drug Deaths Involving Stimulants. <https://www.nihcm.org/categories/beyond-opioids-rapid-increase-in-drug-deaths-involving-stimulants>

# Treatment Admissions

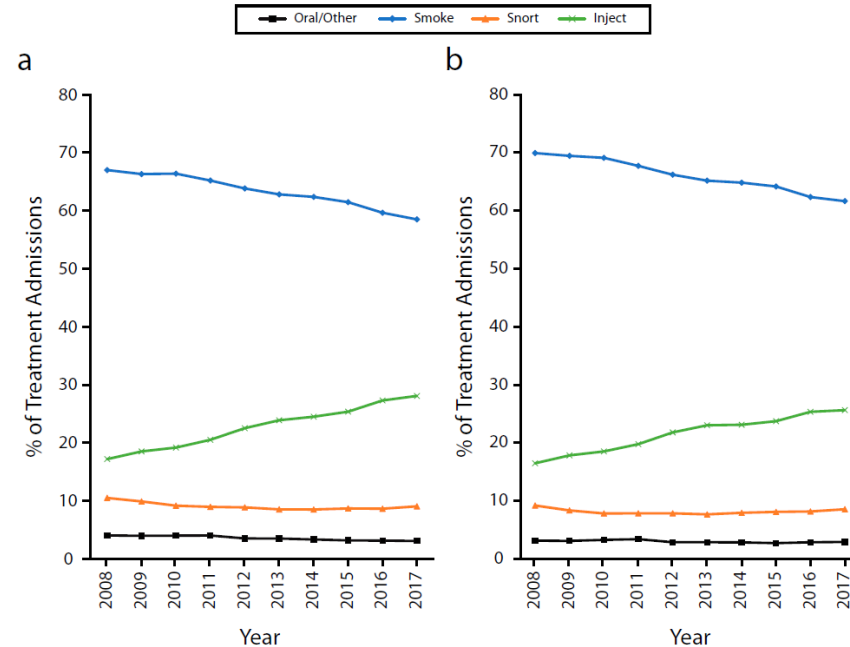


Note. AI/AN=American Indian/Alaska Native; NH=non-Hispanic. Percentage of drug-related treatment admissions reporting any methamphetamine use. Any methamphetamine treatment admissions were defined as treatment admissions in which methamphetamine was listed as a primary, secondary, or tertiary substance of use. Source. 2008–2017 Treatment Episode Data Set.

**FIGURE 1—Percentage of Treatment Admissions Reporting Methamphetamine Use Among Drug-Related Treatment Admissions (a) Overall and by Sex, (b) by Age Group, (c) by Race/Ethnicity, and (d) by US Census Region: United States, 2008–2017**

Christopher M. Jones, Emily O. Olsen, Julie O'Donnell, and Desiree Mustaqim, 2020: [Resurgent Methamphetamine Use at Treatment Admission in the United States, 2008–2017](https://doi.org/10.2105/AJPH.2019.305527) American Journal of Public Health **110**, 509–516, <https://doi.org/10.2105/AJPH.2019.305527>

# Route of Administration



*Note.* Any methamphetamine treatment admissions were defined as treatment admissions in which methamphetamine was listed as a primary, secondary, or tertiary substance of use. Primary methamphetamine treatment admissions were defined as treatment admissions in which methamphetamine was listed as the primary substance of use.

*Source.* 2008–2017 Treatment Episode Data Set.

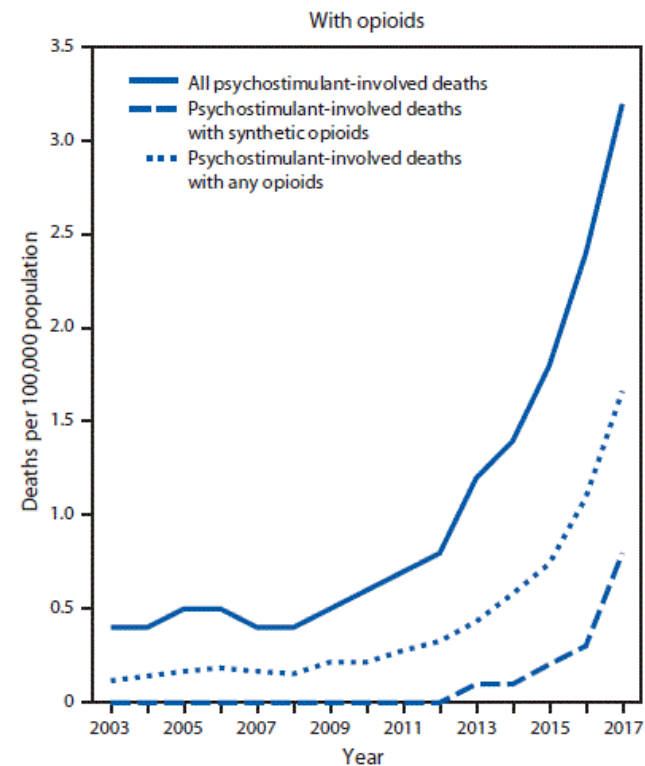
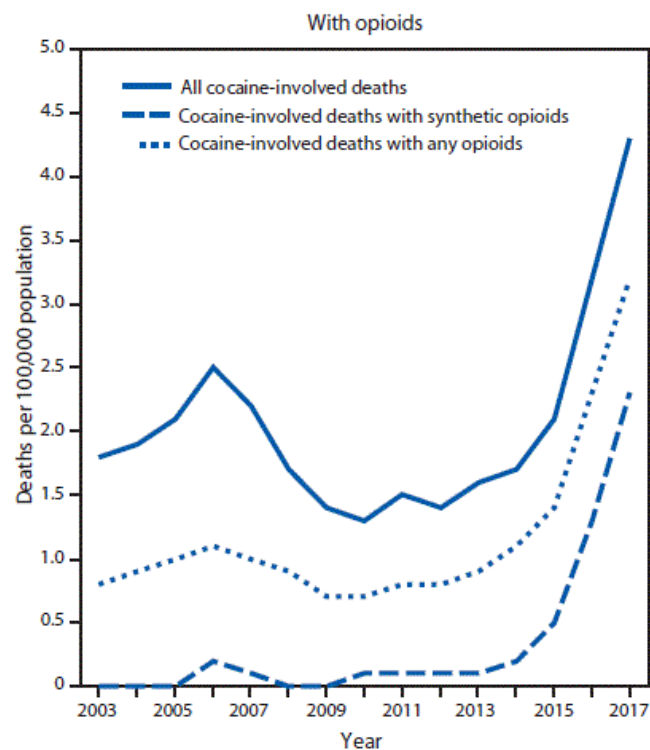
**FIGURE 2—Usual Route of Methamphetamine Use Reported at Treatment Admissions for (a) Any Methamphetamine and (b) Primary Methamphetamine: United States, 2008–2017**

Christopher M. Jones, Emily O. Olsen, Julie O'Donnell, and Desiree Mustaqim, 2020: [Resurgent Methamphetamine Use at Treatment Admission in the United States, 2008–2017](https://doi.org/10.2105/AJPH.2019.305527) American Journal of Public Health **110**, 509–516, <https://doi.org/10.2105/AJPH.2019.305527>

## Disparate Data

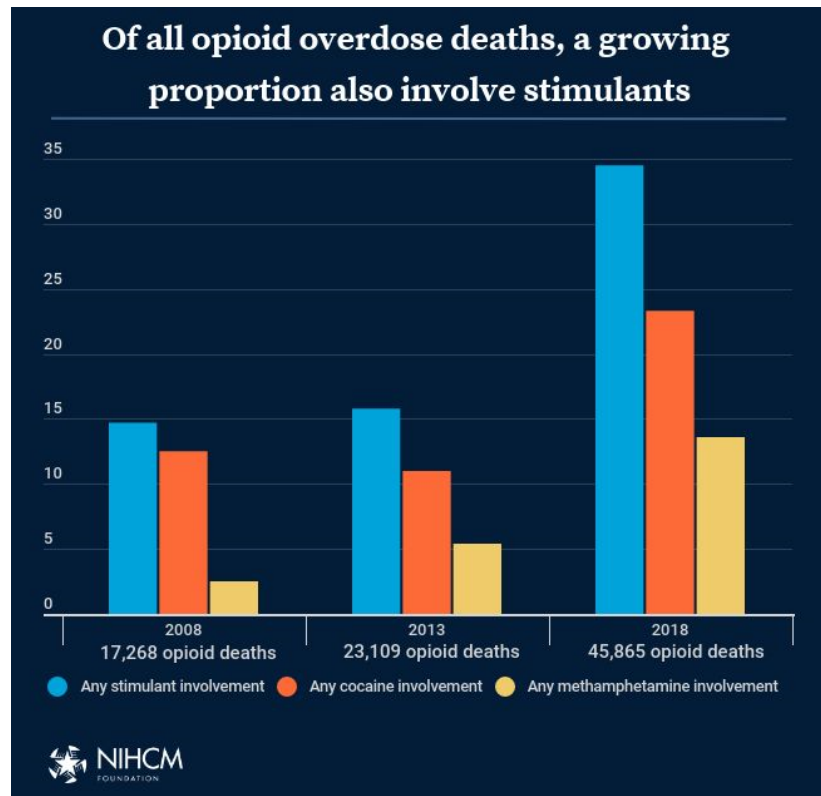
- General population use is stable or has small increases (NSDUH)
- Treatment admissions for cocaine have decreased (TEDS)
- Significant relationship to the opioid epidemic

## Opioids + Stimulants: Overdose deaths



Kariisa M, Scholl L, Wilson N, Seth P, Hoots B. Drug Overdose Deaths Involving Cocaine and Psychostimulants with Abuse Potential — United States, 2003–2017. MMWR Morb Mortal Wkly Rep 2019;68:388–395. DOI: <http://dx.doi.org/10.15585/mmwr.mm6817a3external icon>.

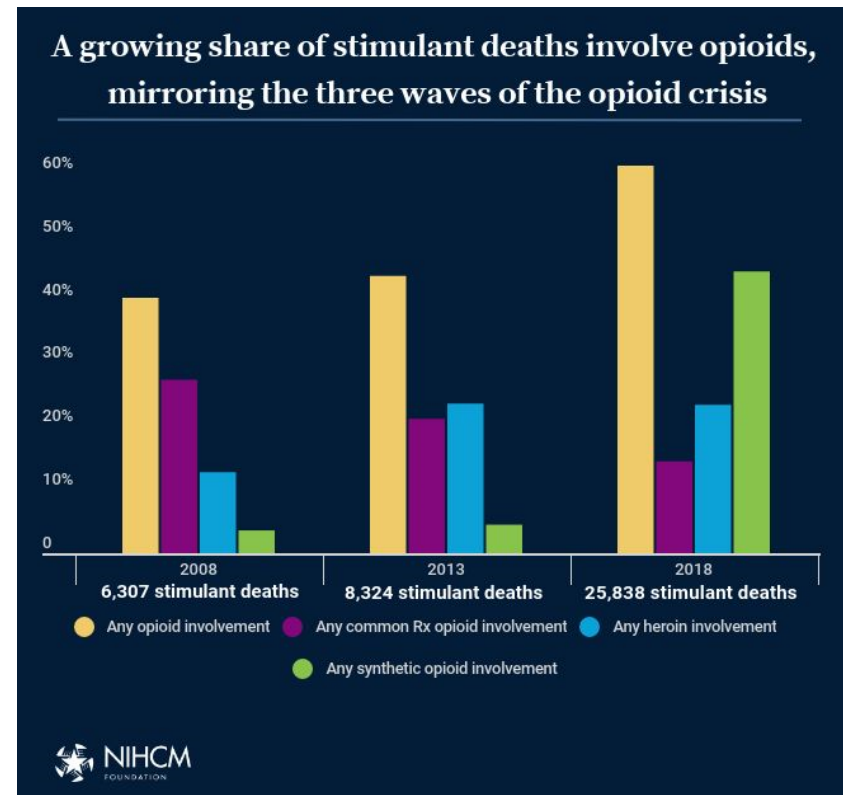
## Opioids + Stimulants: Overdose deaths



NIHCM. May 2020. Beyond Opioids: Rapid Increase in Drug Deaths Involving Stimulants. <https://www.nihcm.org/categories/beyond-opioids-rapid-increase-in-drug-deaths-involving-stimulants>

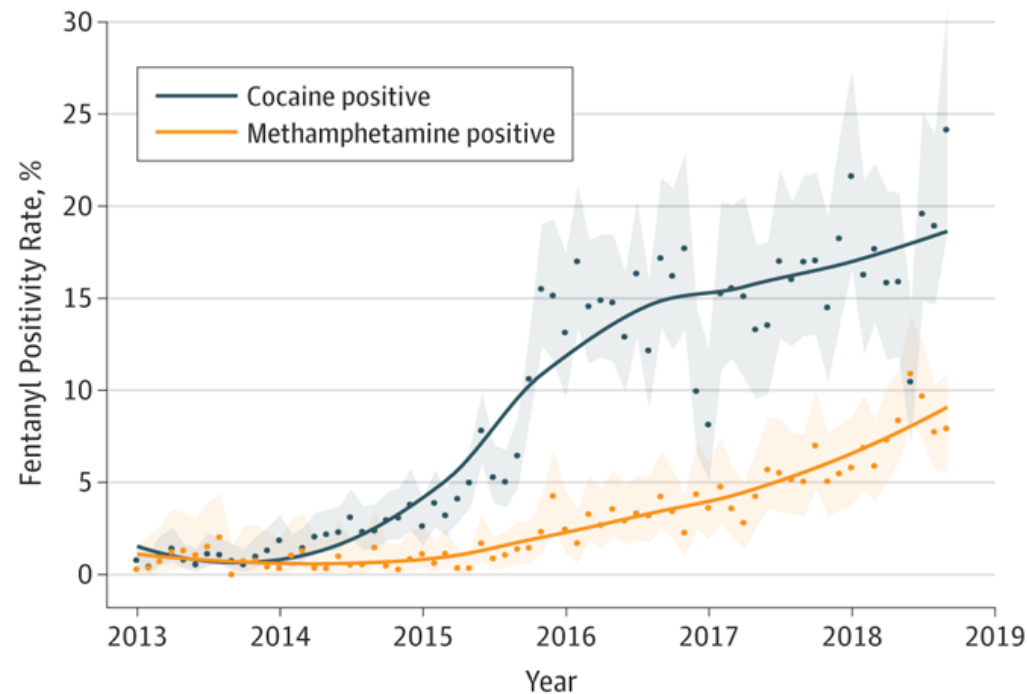


## Opioids + Stimulants: Overdose deaths



NIHCM. May 2020. Beyond Opioids: Rapid Increase in Drug Deaths Involving Stimulants. <https://www.nihcm.org/categories/beyond-opioids-rapid-increase-in-drug-deaths-involving-stimulants>

## Opioids + Stimulants: Fentanyl Tests

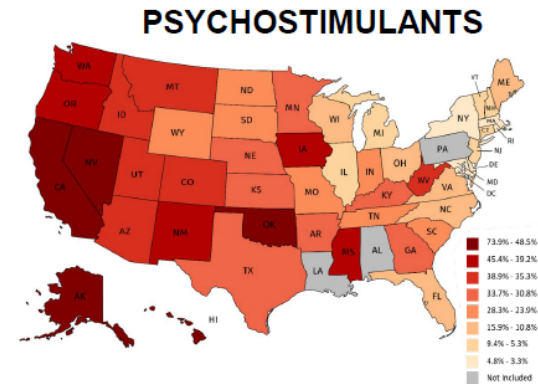
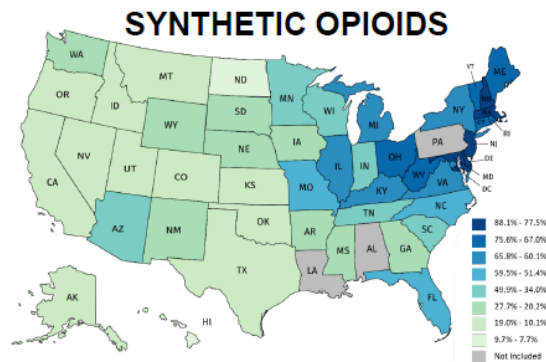


LaRue L, Twillman RK, Dawson E, et al. Rate of Fentanyl Positivity Among Urine Drug Test Results Positive for Cocaine or Methamphetamine. *JAMA Netw Open*. 2019;2(4):e192851. doi:10.1001/jamanetworkopen.2019.2851

# Opioids + Stimulants: Regionality

## OD Deaths: Provisional Data 3/ 2018 – 2/ 2019

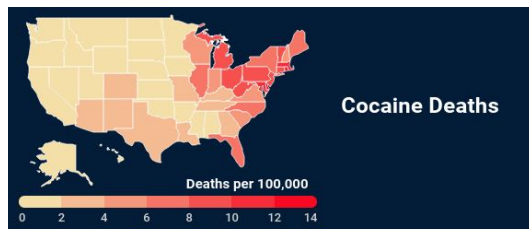
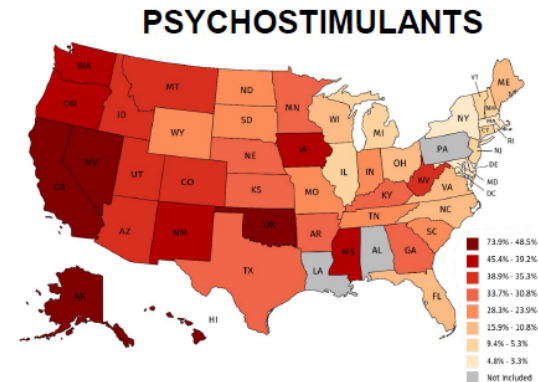
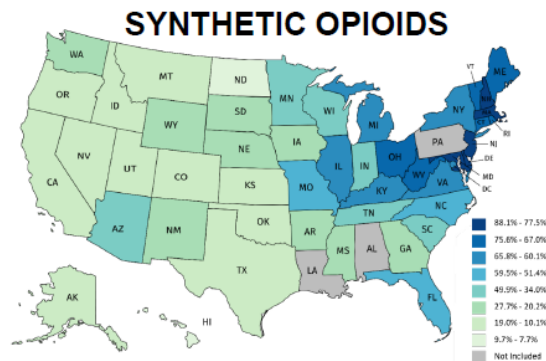
Source: CDC National Vital Statistics System, September 12, 2019



# Opioids + Stimulants: Regionality

## OD Deaths: Provisional Data 3/ 2018 – 2/ 2019

Source: CDC National Vital Statistics System, September 12, 2019



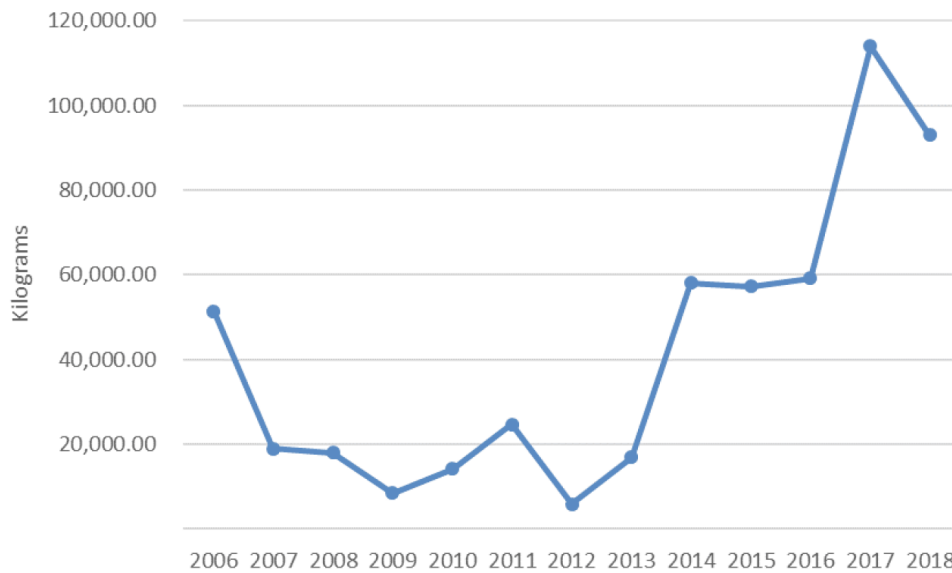
# Opioids + Stimulants: Motivations for Use

<b>Balance of effect</b>	56 (38.6)	(1) <i>I could function on them together</i>  (2) <i>I used meth to give me the rush &amp; to have energy. I used heroin to numb myself or to get the high from the opioids. If i used too much meth id use heroin to calm down;</i>  (3) <i>Cause I was trying to get allot of work done energy with no pain make you be able to get stuff done</i>  (4) <i>Use meth sometimes to counter the drowsiness from opioids</i>
<b>Availabile as Opioid Substitute</b>	22 (15.2)	(1) <i>So when i couldn't use opioids because of money or availability, i used methamphetamine</i>  (2) <i>I would use meth when I had ran out.</i>  (3) <i>When I was really sick from the withdrawal and I couldn't find opioids, I would use methamphetamine</i>

Ellis MS, Kasper ZA, Cicero TJ. Twin epidemics: The surging rise of methamphetamine use in chronic opioid users. *Drug Alcohol Depend.* 2018;193:14-20. doi:10.1016/j.drugalcdep.2018.08.02

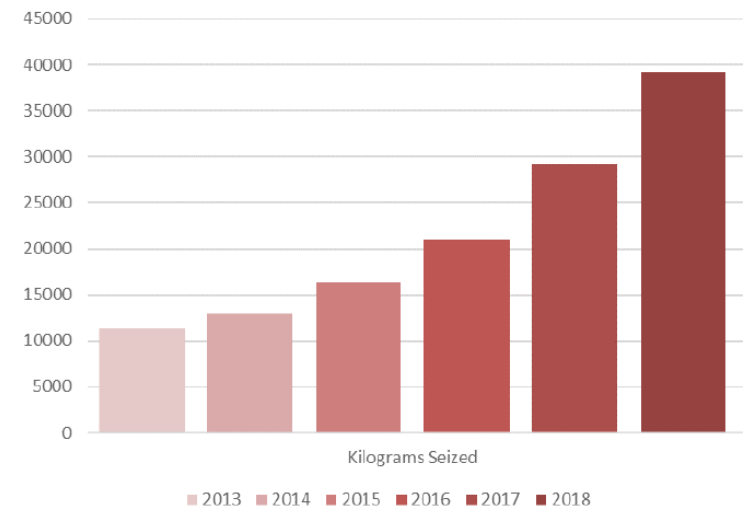
## Supply Side Forces: Seizures

**Figure 65. DEA Nationwide Cocaine Removals, 2006 – 2018**



Source: DEA

**Figure 45. Customs and Border Protection Southwest Border Methamphetamine Seizures, 2013 – 2018**

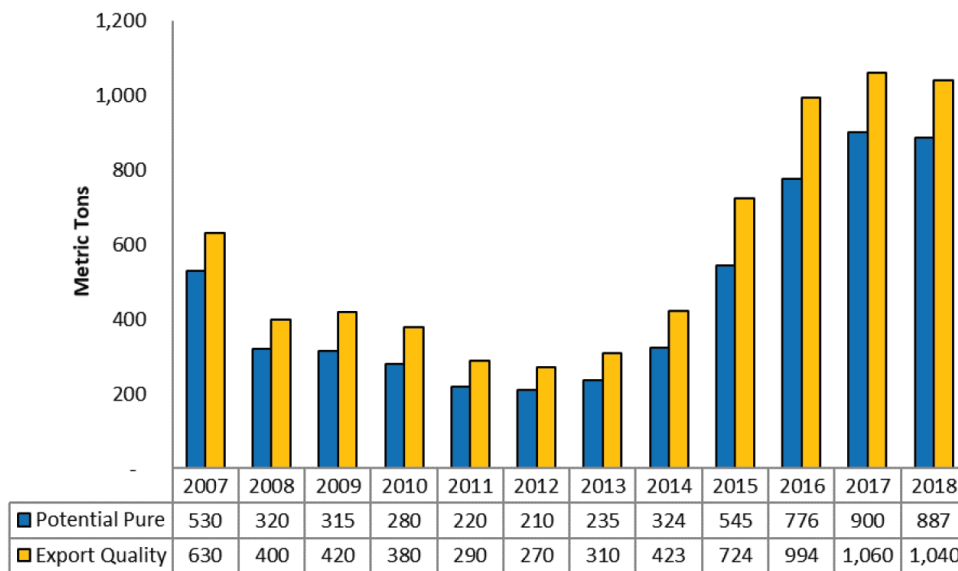


Source: Customs and Border Protection

DEA. 2019 National Drug Threat Assessment. December 2019. DEA-DCT-DIR-007-20. [https://www.dea.gov/sites/default/files/2020-01/2019-NDTA-final-01-14-2020\\_Low\\_Web-DIR-007-20\\_2019.pdf](https://www.dea.gov/sites/default/files/2020-01/2019-NDTA-final-01-14-2020_Low_Web-DIR-007-20_2019.pdf)

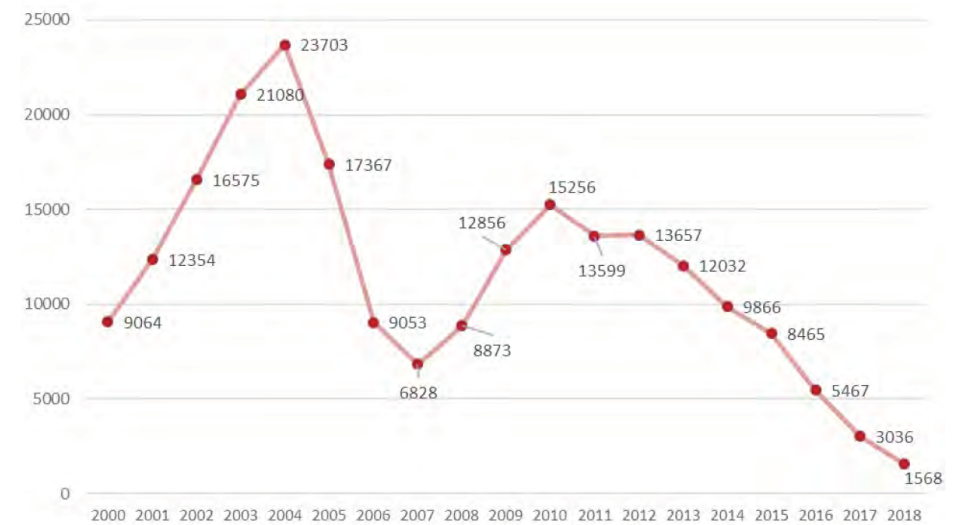
# Supply Side Forces: Production

**Figure 63. Colombian Cocaine Production, 2007 – 2018**



Source: U.S. Government Estimates

**Figure 41. Number of Methamphetamine Laboratory Incidents, 2000 – 2017**



Source: El Paso Intelligence Center as of March 27, 2019

DEA. 2019 National Drug Threat Assessment. December 2019. DEA-DCT-DIR-007-20. [https://www.dea.gov/sites/default/files/2020-01/2019-NDTA-final-01-14-2020\\_Low\\_Web-DIR-007-20\\_2019.pdf](https://www.dea.gov/sites/default/files/2020-01/2019-NDTA-final-01-14-2020_Low_Web-DIR-007-20_2019.pdf)

# Supply Side Forces: Price & Purity

Figure 56. Price and Purity of Domestic Cocaine Purchases, January 2013 – December 2017

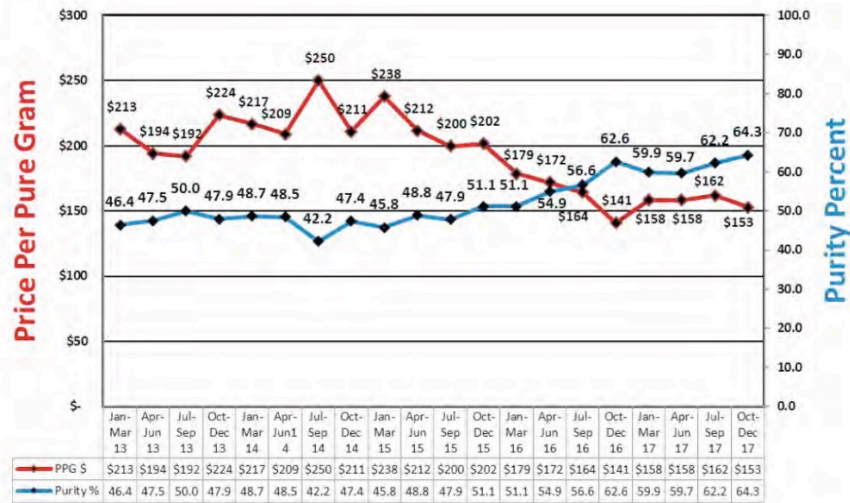
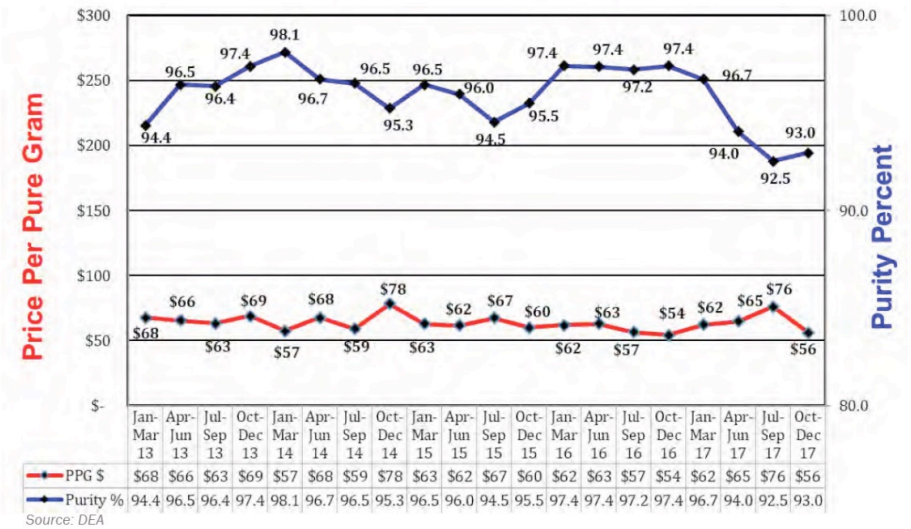


Figure 36. Domestic Methamphetamine Purchases, January 2013 – December 2017

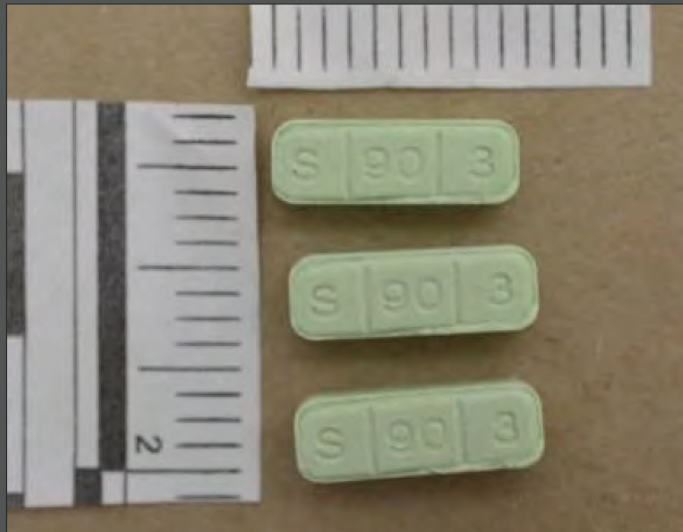


DEA. 2019 National Drug Threat Assessment. December 2019. DEA-DCT-DIR-007-20. [https://www.dea.gov/sites/default/files/2020-01/2019-NDTA-final-01-14-2020\\_Low\\_Web-DIR-007-20\\_2019.pdf](https://www.dea.gov/sites/default/files/2020-01/2019-NDTA-final-01-14-2020_Low_Web-DIR-007-20_2019.pdf)



## Supply Side Forces: Emerging Trends

**Figure 60. Counterfeit Xanax Pills Also Containing Cocaine and Fentanyl**



Source: Wilmington, Massachusetts Police Department

**Figure 49. Counterfeit Adderall Tablets Containing Methamphetamine seized in Michigan**



Source: Michigan State Police

DEA. 2019 National Drug Threat Assessment. December 2019. DEA-DCT-DIR-007-20. [https://www.dea.gov/sites/default/files/2020-01/2019-NDTA-final-01-14-2020\\_Low\\_Web-DIR-007-20\\_2019.pdf](https://www.dea.gov/sites/default/files/2020-01/2019-NDTA-final-01-14-2020_Low_Web-DIR-007-20_2019.pdf)

# Impact of COVID-19

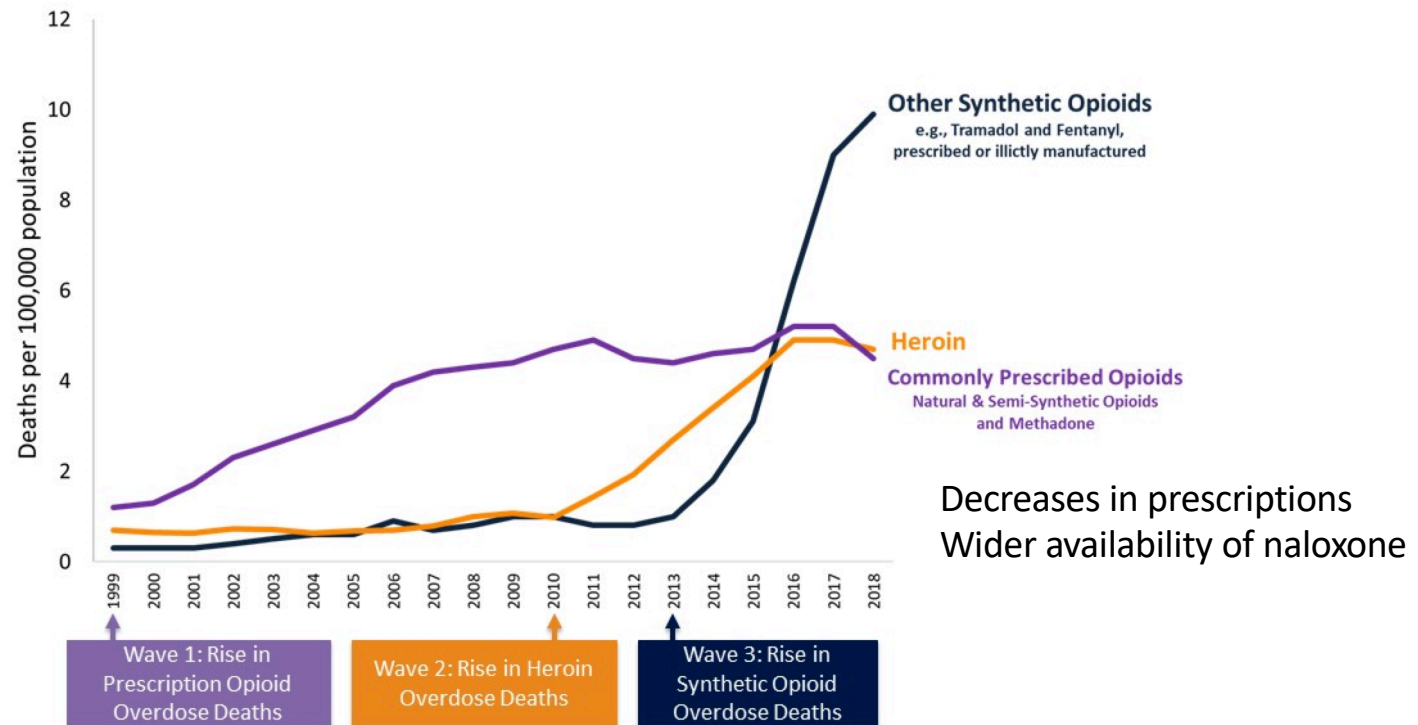
## Supply Side Forces: Early COVID-19

Cocaine	Methamphetamine	Fentanyl/Heroin
Production disruptions in Columbia	Precursor disruptions in China impacting production in Mexico	Precursor disruptions in China; opium disruptions in Afghanistan
Little disruption in sea trafficking	Disruptions in ground trafficking	Disruptions in air trafficking (fentanyl)
Economic crises could increase coca cultivation		Economic crises could increase opium cultivation

UNODC. Research Brief: COVID-19 and the drug supply chain: from production and trafficking to use. May 2020. <https://www.unodc.org/documents/data-and-analysis/covid/Covid-19-and-drug-supply-chain-Mai2020.pdf>

# Opioid overdose deaths

## 3 Waves of the Rise in Opioid Overdose Deaths



# Opioid Overdose deaths

- **The Opioid Crisis, Already Serious, Has Intensified During Coronavirus Pandemic.**  
<https://www.wsj.com/articles/the-opioid-crisis-already-serious-has-intensified-during-coronavirus-pandemic-11599557401> September 8, 2020
  - **Opioid overdoses on the rise during COVID-19 pandemic, despite telemedicine care.**  
<https://abcnews.go.com/Health/opioid-overdoses-rise-covid-19-pandemic-telemedicine-care/story?id=72442735> August 24, 2020
  - **U.S. Sees Deadly Drug Overdose Spike During Pandemic.**  
<https://www.npr.org/sections/coronavirus-live-updates/2020/08/13/901627189/u-s-sees-deadly-drug-overdose-spike-during-pandemic> August 13, 2020
  - **As overdoses rise during pandemic, 2 moms share their stories of loss.**  
<https://www.today.com/health/overdoses-rise-during-coronavirus-pandemic-moms-speak-out-t188420> August 5, 2020
  - **AMA Urges Changes After Dramatic Increase in Illicit Opioid Fatalities.**  
<https://www.medscape.com/viewarticle/934548> July 24, 2020
  - **Drug overdose deaths jump in 2019 to nearly 71,000, a record high, CDC says.**  
<https://www.cnn.com/2020/07/15/health/drug-overdose-deaths-2019/index.html> July 16, 2020
  - **'Opioid overdoses are skyrocketing': as Covid-19 sweeps across US an old epidemic returns.** <https://www.theguardian.com/us-news/2020/jul/09/coronavirus-pandemic-us-opioids-crisis> July 9, 2020
  - **High Rate of Stimulant Use in Opioid ED Cases.**  
<https://www.medscape.com/viewarticle/933527> July 7, 2020
  - **Coronavirus Crisis Disrupts Treatment For Another Epidemic: Addiction.**  
[https://khn.org/news/coronavirus-crisis-disrupts-treatment-for-another-epidemic-addiction/?utm\\_source=National+Conference+of+State+Legislatures&utm\\_campaign=e7504bd7d3-](https://khn.org/news/coronavirus-crisis-disrupts-treatment-for-another-epidemic-addiction/?utm_source=National+Conference+of+State+Legislatures&utm_campaign=e7504bd7d3-)
-

# Opioid Overdose deaths

- **The Opioid Crisis, Already Serious, Has Intensified During Coronavirus Pandemic.**  
<https://www.wsj.com/articles/the-opioid-crisis-already-serious-has-intensified-during-coronavirus-pandemic-11599557401> September 8, 2020
- **Opioid overdoses on the rise during COVID-19 pandemic, despite telemedicine care.**  
<https://abcnews.go.com/Health/opioid-overdoses-rise-covid-19-pandemic-telemedicine-care/story?id=72442735> August 24, 2020
- **U.S. Sees Deadly Drug Overdose Spike During Pandemic.**  
<https://www.npr.org/sections/coronavirus-live-updates/2020/08/13/901627189/u-s-sees-deadly-drug-overdose-spike-during-pandemic> August 13, 2020
- **As overdoses rise during pandemic, 2 moms share their stories of loss.**  
<https://www.today.com/health/overdoses-rise-during-coronavirus-pandemic-moms-speak-out-t188420> August 5, 2020
- **AMA Urges Changes After Dramatic Increase in Illicit Opioid Fatalities.**  
<https://www.medscape.com/viewarticle/934548> July 24, 2020
- **Drug overdose deaths jump in 2019 to nearly 71,000, a record high, CDC says.**  
<https://www.cnn.com/2020/07/15/health/drug-overdose-deaths-2019/index.html> July 16, 2020
- **'Opioid overdoses are skyrocketing': as Covid-19 sweeps across US an old epidemic returns.** <https://www.theguardian.com/us-news/2020/jul/09/coronavirus-pandemic-us-opioids-crisis> July 9, 2020
- **High Rate of Stimulant Use in Opioid ED Cases.**  
<https://www.medscape.com/viewarticle/933527> July 7, 2020
- **Coronavirus Crisis Disrupts Treatment For Another Epidemic: Addiction.**  
[https://khn.org/news/coronavirus-crisis-disrupts-treatment-for-another-epidemic-addiction/?utm\\_source=National+Conference+of+State+Legislatures&utm\\_campaign=e7504bd7d3-](https://khn.org/news/coronavirus-crisis-disrupts-treatment-for-another-epidemic-addiction/?utm_source=National+Conference+of+State+Legislatures&utm_campaign=e7504bd7d3-)

Drug overdose death rates increased 13% in the first half of 2020.

# Supply Side Forces: Current COVID-19

## Office of Field Operations Nationwide Drug Seizures

Numbers below reflect FY 2014 - FY 2019 and FY20 To Date (TD).

*Fiscal Year 2020 runs October 01, 2019 - September 30, 2020.*

	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY20 TD AUG
Cocaine	45,323	38,346	52,838	62,415	51,592	89,207	37,380
Heroin	4,356	6,023	4,224	3,398	5,205	5,427	4,552
Marijuana	438,146	602,821	516,122	366,627	299,419	289,529	313,813
Methamphetamine <sup>5</sup>	19,613	25,495	33,086	46,247	57,440	68,585	141,663
Fentanyl	n/a	70	596	1,875	1,895	2,545	3,302

\*weights are in pounds (lb)

<sup>5</sup> As of 01 October 2019, category includes both Methamphetamine and Crystal Methamphetamine.

## Supply Side Forces: Current COVID-19

### Office of Field Operations Nationwide Drug Seizures

Numbers below reflect FY 2014 - FY 2019 and FY20 To Date (TD).

*Fiscal Year 2020 runs October 01, 2019 - September 30, 2020.*

Seizures of “hard” drugs at the border were up 56% from July to August

	FY 14	FY 15	FY 16	FY 17	FY 18	FY 19	FY20 TD AUG
Cocaine	45,323	38,346	52,838	62,415	51,592	89,207	37,380
Heroin	4,356	6,023	4,224	3,398	5,205	5,427	4,552
Marijuana	438,146	602,821	516,122	366,627	299,419	289,529	313,813
Methamphetamine <sup>5</sup>	19,613	25,495	33,086	46,247	57,440	68,585	141,663
Fentanyl	n/a	70	596	1,875	1,895	2,545	3,302

\*weights are in pounds (lb)

<sup>5</sup> As of 01 October 2019, category includes both Methamphetamine and Crystal Methamphetamine.



## Supply Side Forces: COVID-19

- Diverted resources could make it easier for traffickers
- Shortages/Increases of drugs could shift drug use patterns
  - Shift to cheaper drugs
  - Use of multiple drugs
  - Lack of experience with different drugs may result in increased risk of overdose
  - Increased injection/sharing
  - Increase in new users

UNODC. Research Brief: COVID-19 and the drug supply chain: from production and trafficking to use. May 2020. <https://www.unodc.org/documents/data-and-analysis/covid/Covid-19-and-drug-supply-chain-Mai2020.pdf>

## Demand Side Forces: COVID-19

- Life changes/Economic downturn
  - Loss of job, income or housing
  - Loss of social support
  - Increased stress on individuals/relationships
  - Worsening mental health
- Changes in treatment access
  - Loss/change in treatment structure
  - Less willingness to go to ERs or healthcare clinics
  - Less support
  - Increased stress and anxiety about treatment

UNODC. Research Brief: COVID-19 and the drug supply chain: from production and trafficking to use. May 2020. <https://www.unodc.org/documents/data-and-analysis/covid/Covid-19-and-drug-supply-chain-Mai2020.pdf>

## Conclusions

- Stimulant and polysubstance use have significantly increased
- Greater need to focus on treatment of opioids and stimulants
  - Need to expand MAT access in rural areas
  - Lack of pharmacological treatments for stimulant use disorder
- COVID-19 has significantly altered both supply and demand
  - Rural areas could see increases in severity and new initiates

# THANK YOU

Matthew S. Ellis  
ellism@wustl.edu