

Overdose Deaths & Addiction: Medical Strategies for Addressing an Epidemic on the Rise.

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Learning Objectives / Disclosures

- Identify recent trends in substance use and overdose deaths, as well as the modifying role of the COVID-19 global pandemic.
- Recognize the key factors driving an increase in overdose deaths as well as understand important risk factors and geographic variation.
- Identify evidence-based harm-reduction and treatment strategies to prevent overdose deaths and treat substance use disorders.

Terminology

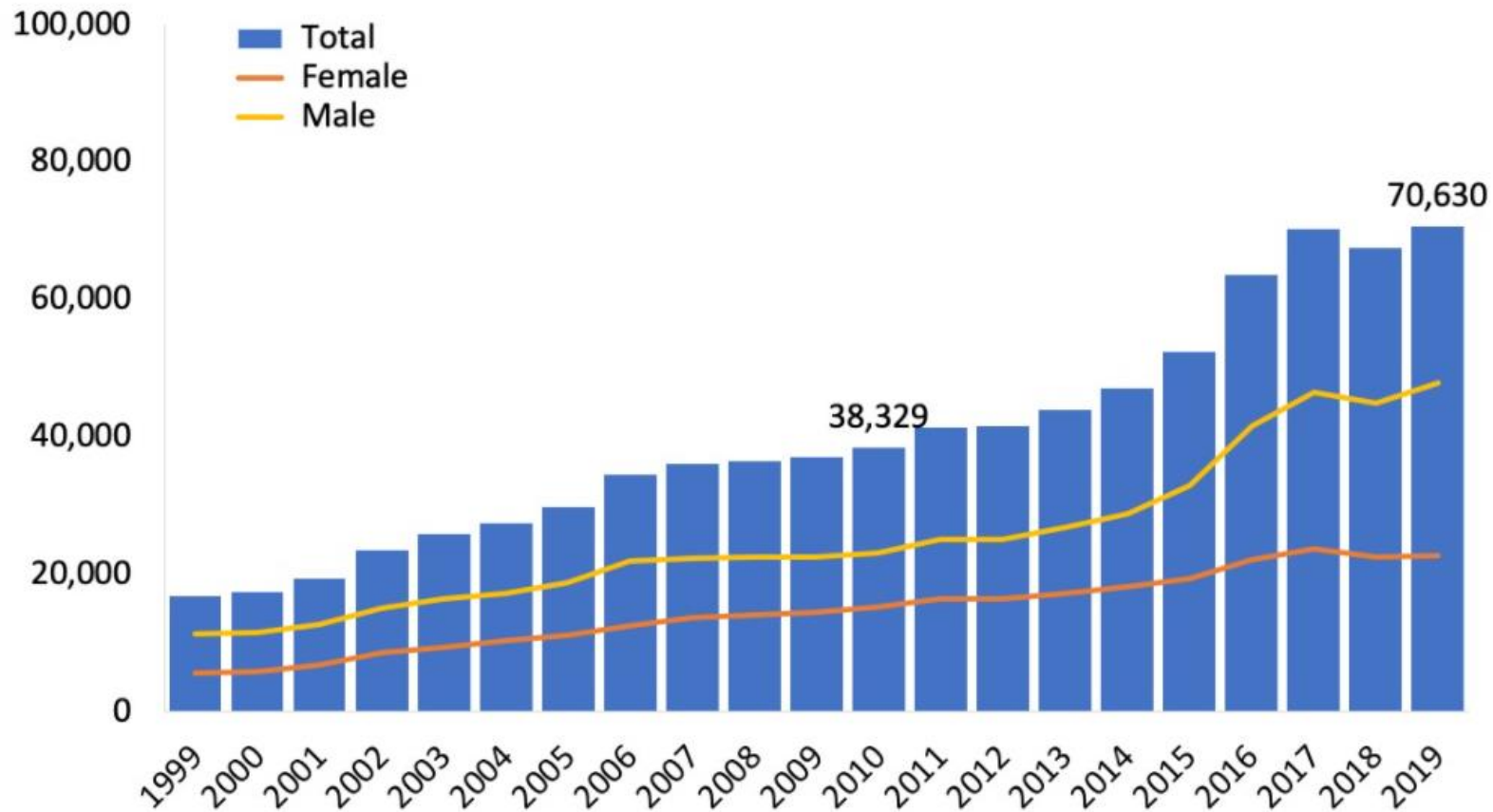
- Addiction:
 - Volkow ND and Baler, R (2019): “Addiction is a chronic, relapsing disease of the brain triggered by repeated exposure to drugs in those who are vulnerable because of genetics and developmental or adverse social exposures.”
- Substance Use Disorder
 - Use of a substance leading to impairment
- Drug Overdose Deaths
 - CDC data includes deaths coded as X40-44, X60-64, X85, and Y10-14

Pre-Pandemic Substance Trends

- Rates of alcohol use and AUD have been decreasing across time but remain problematic, with over 25 % of individuals over age 12 engaging in binge or heavy drinking.
- Cannabis use and cannabis use disorder rates have been steadily increasing
- Rates of opioid use and OUD have been declining.
- Methamphetamine use and U/D rates have been increasing.
- Overdose deaths had been climbing but plateaued in 2017, although fentanyl and methamphetamines have been playing an increasingly significant role

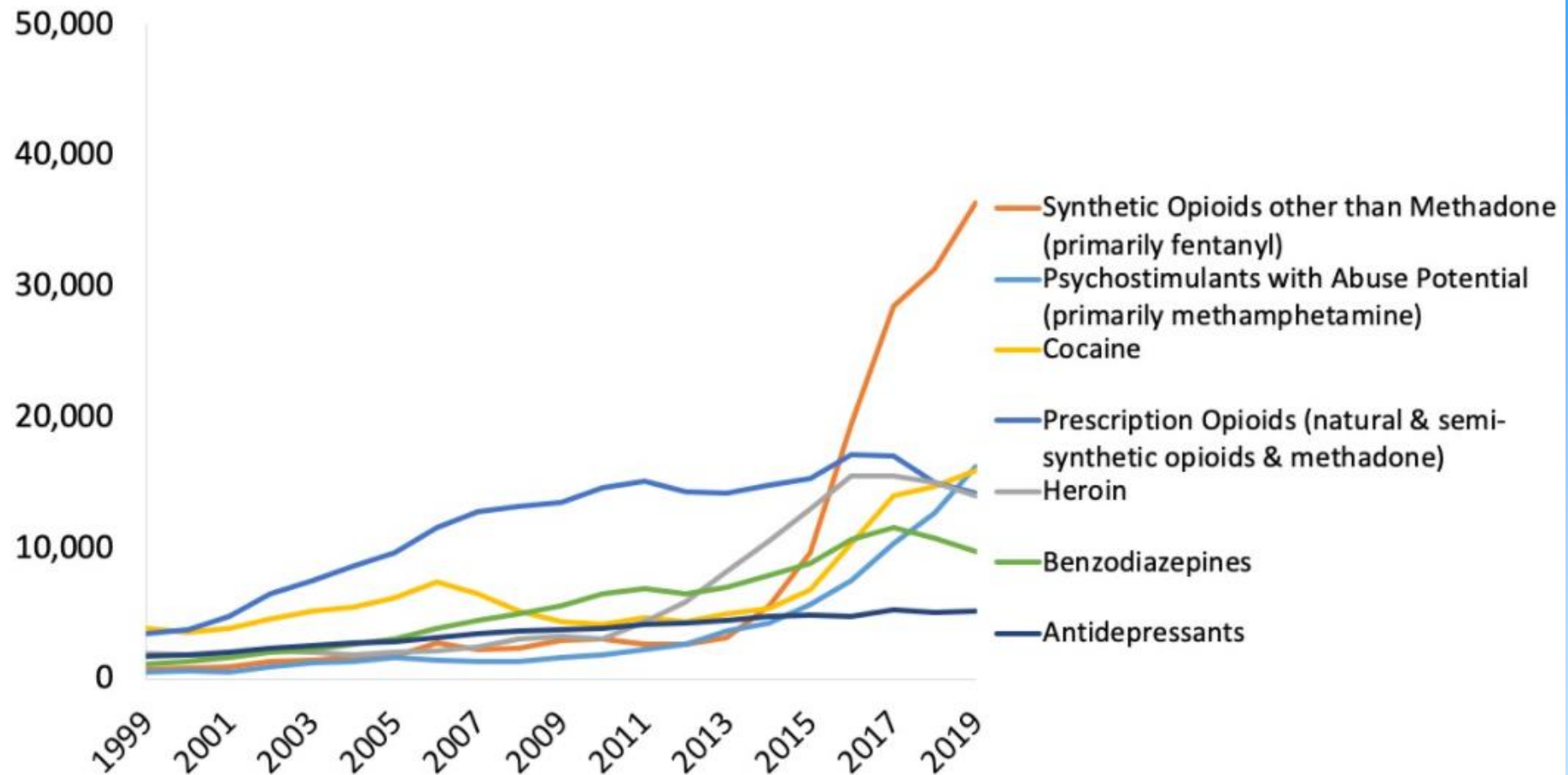
Pre-pandemic: Overdose Deaths

**Figure 1. National Drug-Involved Overdose Deaths*
Number Among All Ages, by Gender, 1999-2019**



*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2019 on CDC WONDER Online Database, released 12/2020.

Figure 2. National Drug-Involved Overdose Deaths*, Number Among All Ages, 1999-2019

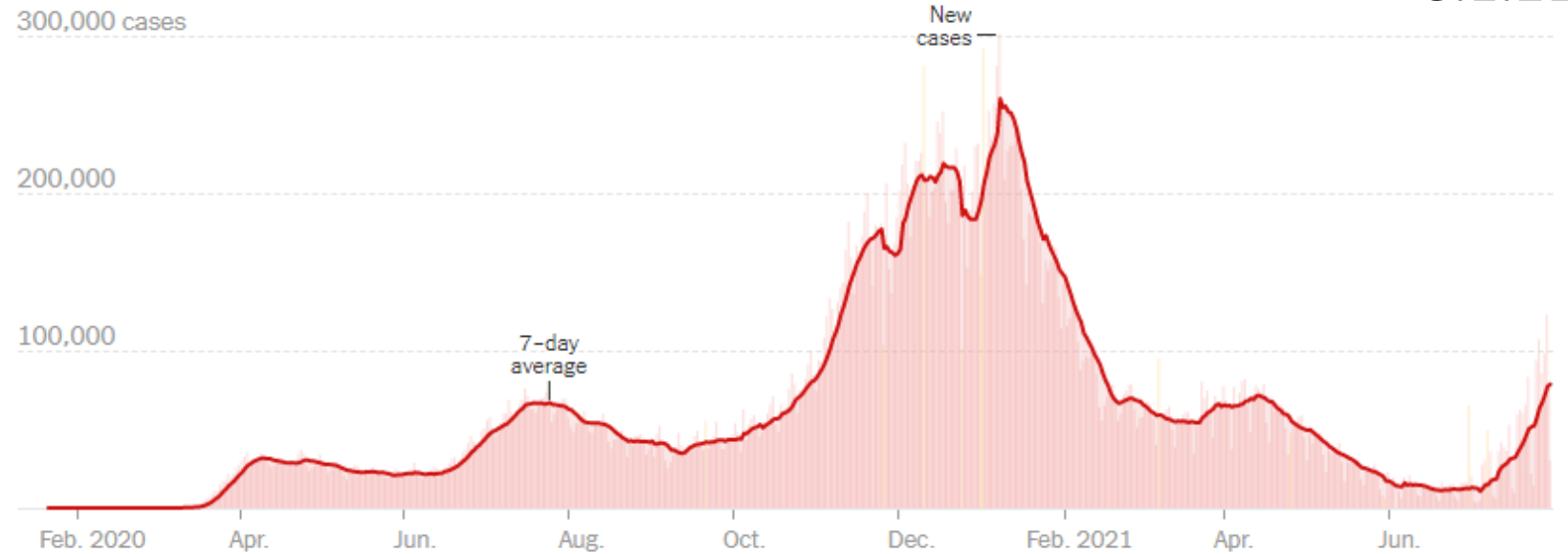


*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2019 on CDC WONDER Online Database, released 12/2020.

COVID-19

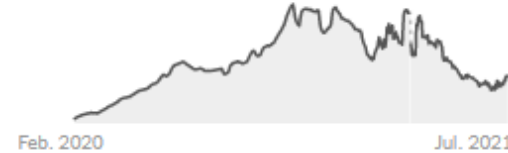
- Health impacts
- Grief: personal, community
- Anxiety/Strain
- Employment
- Loss of supports
- Limited healthy coping activities
- Missed events, lost opportunities
- Isolation

New reported cases

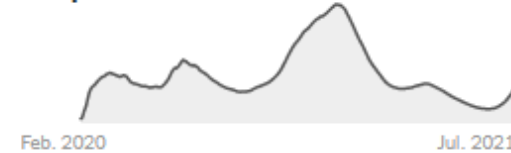


These are days with a reporting anomaly. Read more [here](#).

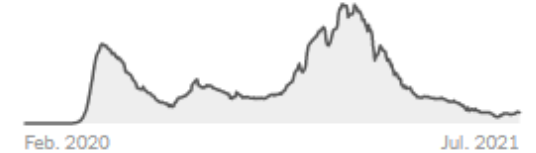
Tests



Hospitalized



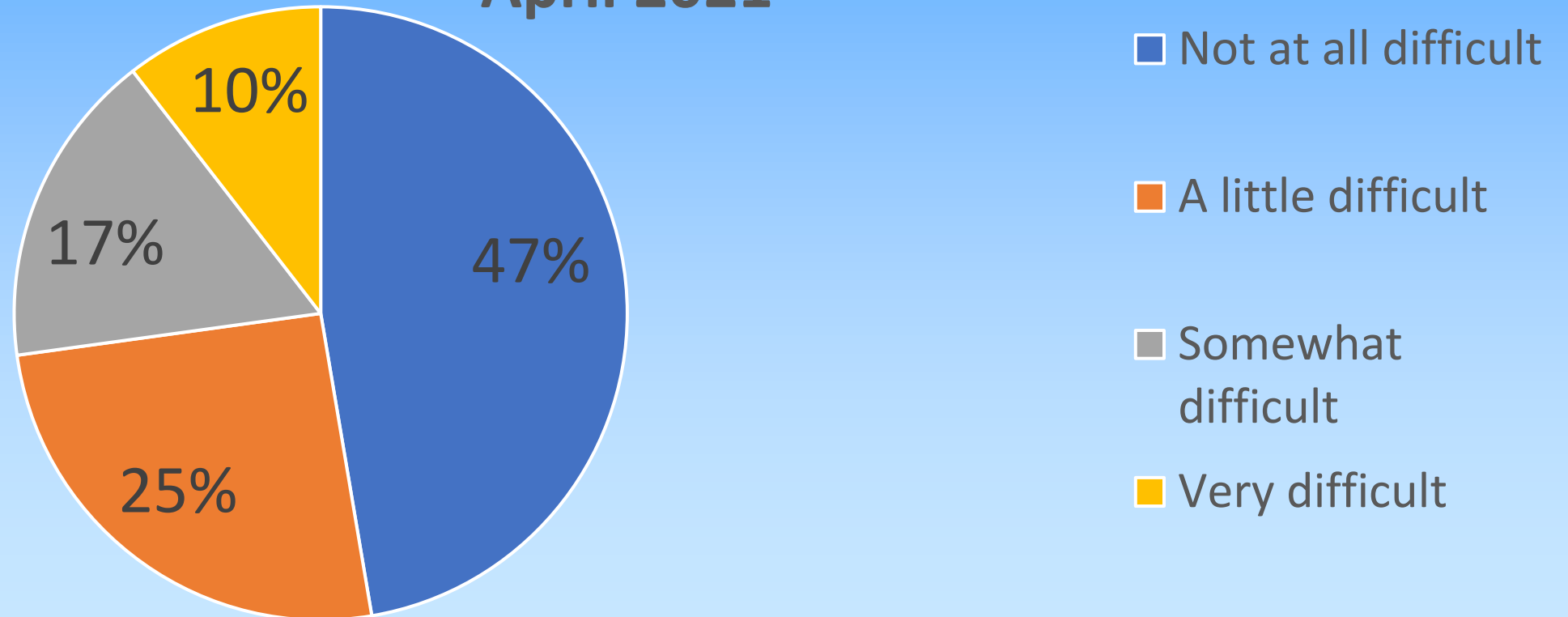
Deaths



	AVG. ON JUL. 31	14-DAY CHANGE	TOTAL REPORTED
Cases	78,433	+148%	35,016,505
Tests	735,636	+41%	—
Hospitalized	40,626	+73%	—
Deaths	308	+13%	612,919

COVID-19 – Economic Insecurity

Difficulty Paying Household Expenses: Oklahoma - April 2021



Source: Calculated by JP from Census Bureau's Household Pulse Survey published tables "for survey weeks 28, 4/16-4/26
<https://www.census.gov/programs-surveys/household-pulse-survey/data.html>

COVID-19: Racial and Ethnic Health Disparities

- Patients who are Black, Hispanic, and American Indian or Alaska Native have had higher rates of infection, hospitalization, and death than those who are white.

Rate ratios compared to White, Non-Hispanic persons	American Indian or Alaska Native, Non-Hispanic persons	Asian, Non-Hispanic persons	Black or African American, Non-Hispanic persons	Hispanic or Latino persons
Cases ¹	1.6x	0.7x	1.1x	2.0x
Hospitalization ²	3.5x	1.0x	2.8x	3.0x
Death ³	2.4x	1.0x	1.9x	2.3x

Survey Data

- CDC: 18% (15.7-20.7) of individuals reported initiating or increasing substance use (June/July 20)
- COPE Survey: 15% reported increased substance use (Sept 20)
- APA Stress in America Report (Feb '21): 23% of adults reporting an increase in alcohol consumption (38% of those describing high levels of stress)

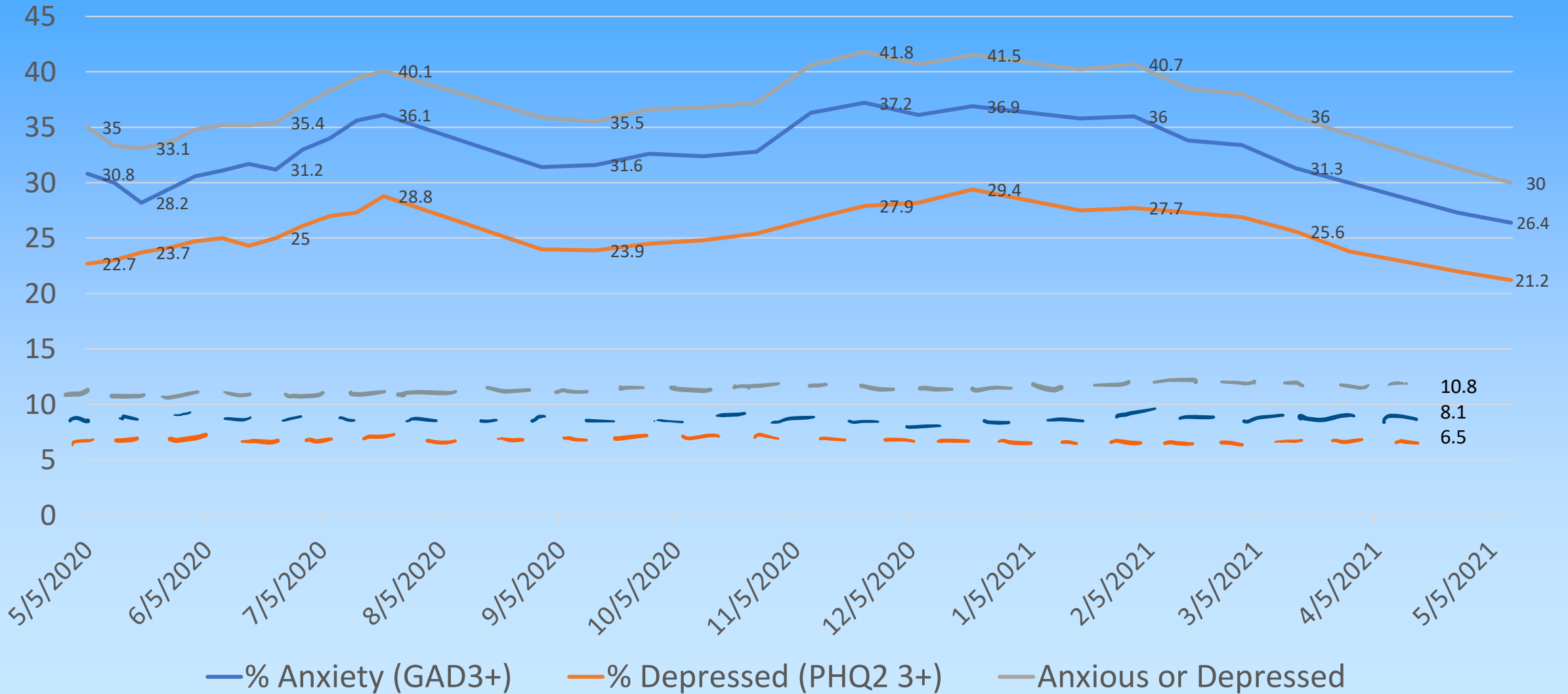
Cannabis Purchases (OK)

OK - Medical Marijuana Sales Tax



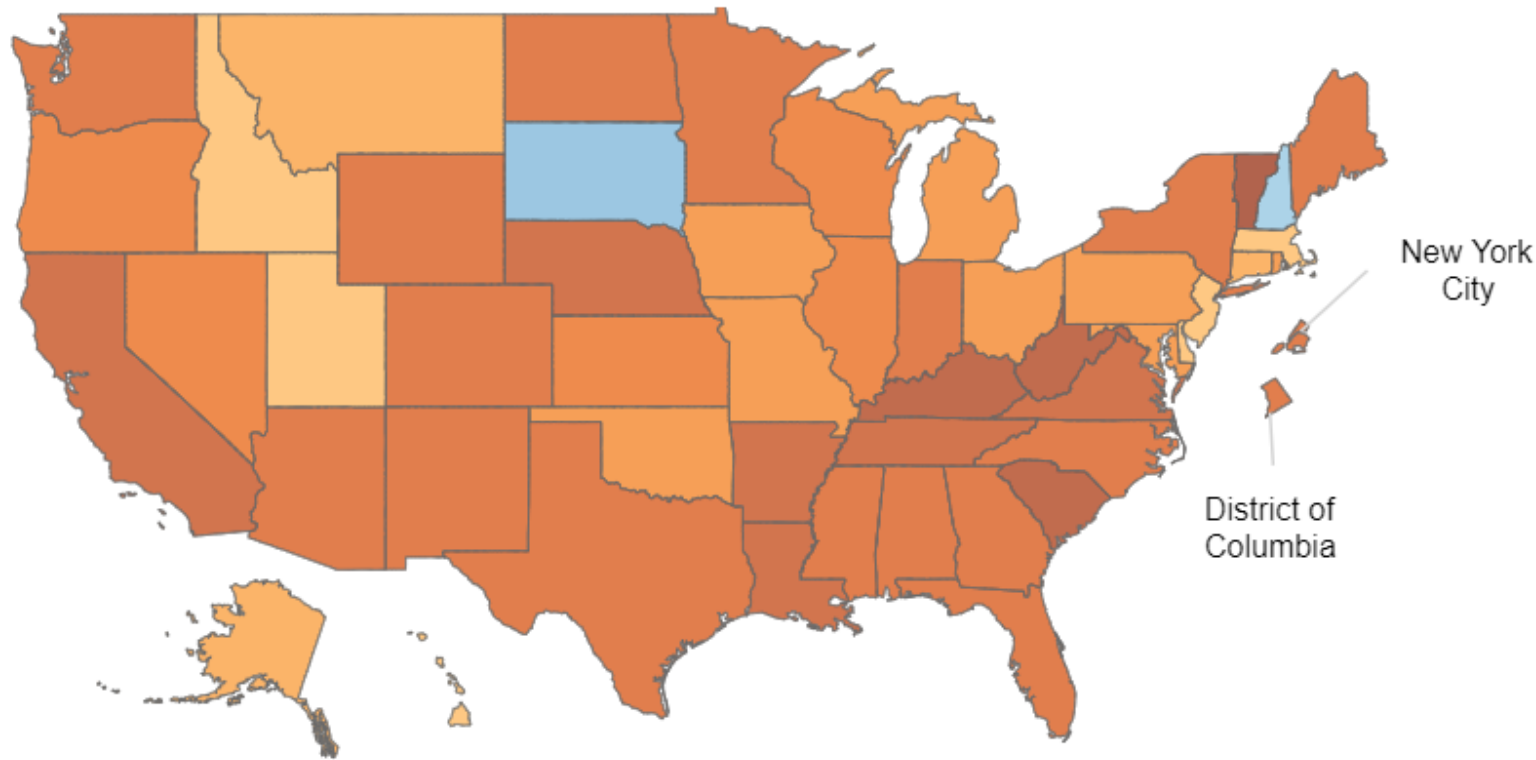
Pulse Survey: Anxiety and Depressive Sxs

CDC Pulse Survey Anxiety, Depression, COVID-19



2020: Overdose Deaths

Figure 1b. Percent Change in Predicted 12 Month-ending Count of Drug Overdose Deaths, by Jurisdiction: December 2019 to December 2020



Select predicted or reported number of deaths

- Predicted
- Reported

Percent Change for United States

29.4



Legend for Percent Change in Drug Overdose Deaths Between 12-Month Ending Periods

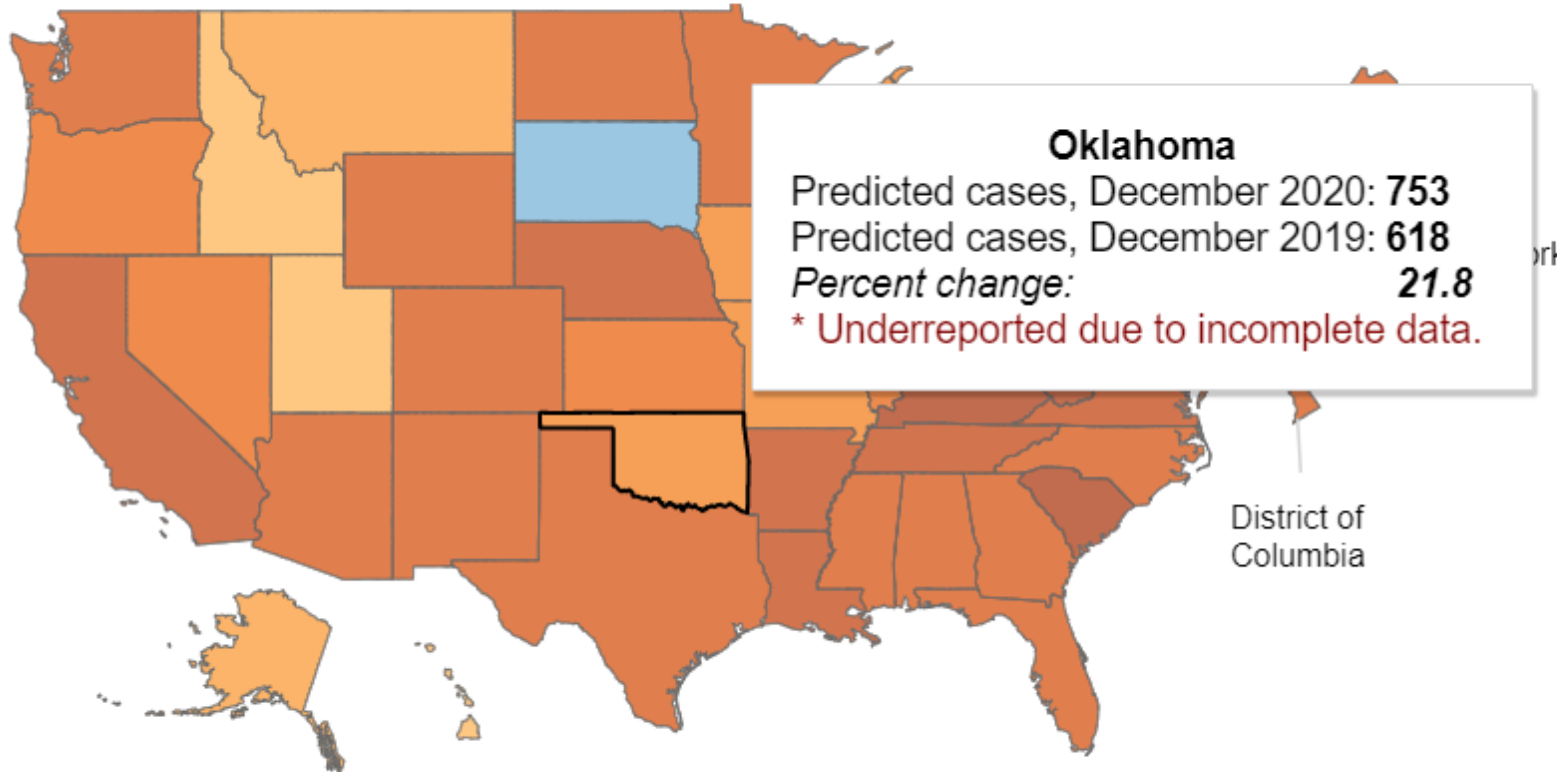
-15.9



63.6

2020: Overdose Deaths

Figure 1b. Percent Change in Predicted 12 Month-ending Count of Drug Overdose Deaths, by Jurisdiction: December 2019 to December 2020



Select predicted or reported number of deaths

- Predicted
- Reported

Percent Change for United States

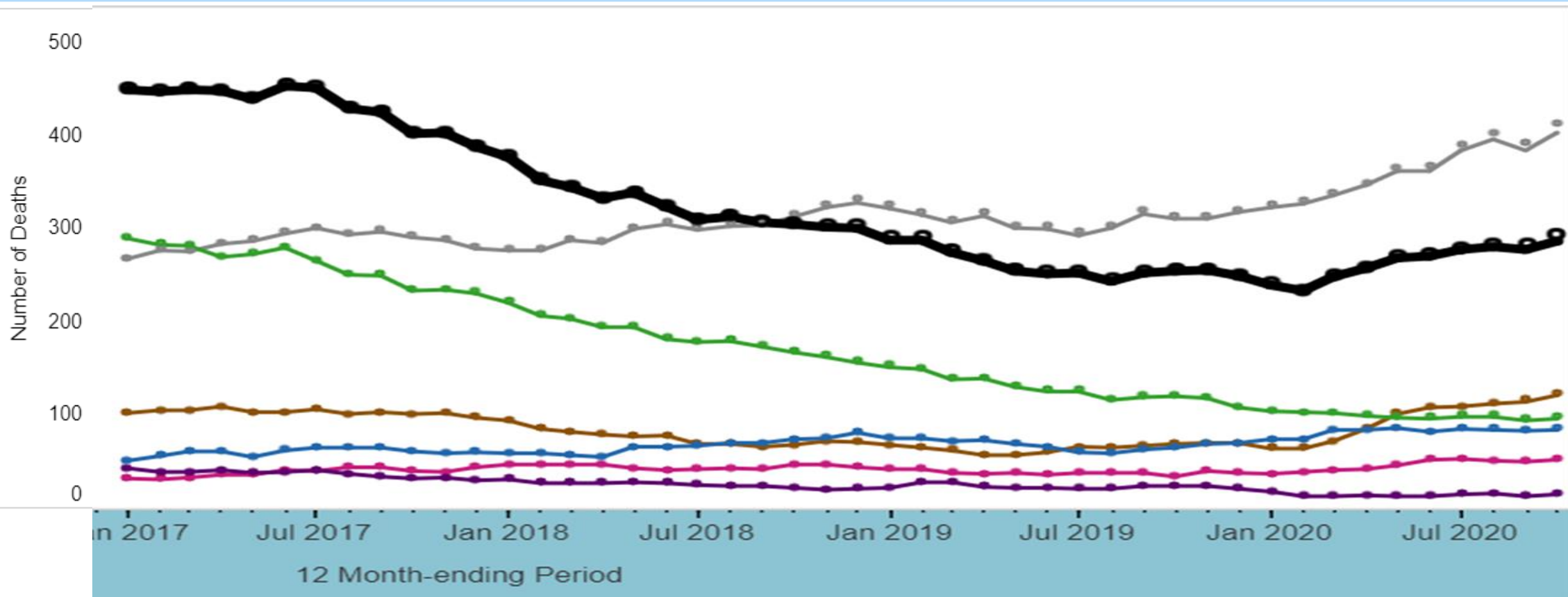
29.4



Legend for Percent Change in Drug Overdose Deaths Between 12-Month Ending Periods



Figure 2. 12 Month-ending Provisional Number of Drug Overdose Deaths by Drug or Drug Class: Oklahoma



Legend for Drug or Drug Class

Opioids (T40.0-T40.4, T40.6)

Heroin (T40.1)

Natural & semi-synthetic opioids (T40.2)

Methadone (T40.3)

Synthetic opioids, excl. methadone (T40.4)

Cocaine (T40.5)

Psychostimulants with abuse potential (T43.6)

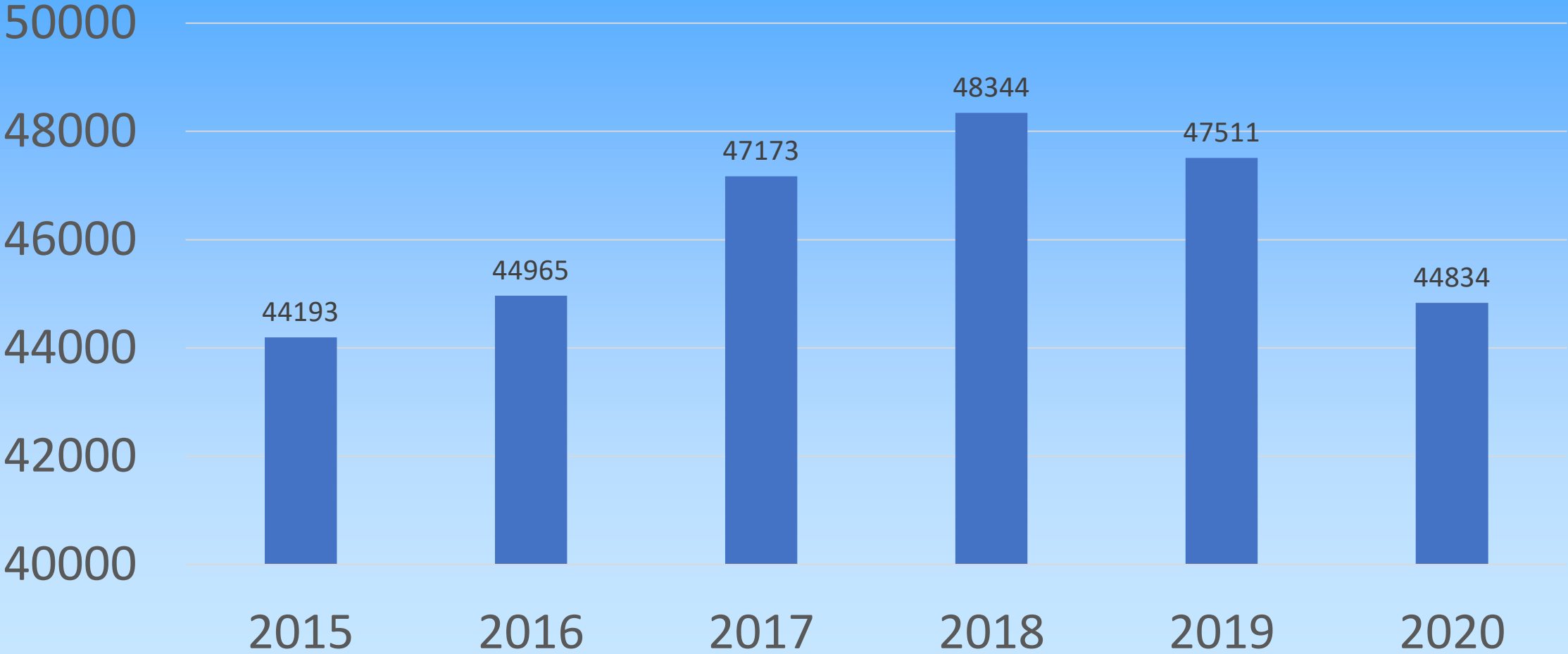
---- Reported Value

○ Predicted Value

Adapted from
CDC.gov

OBNDD Data

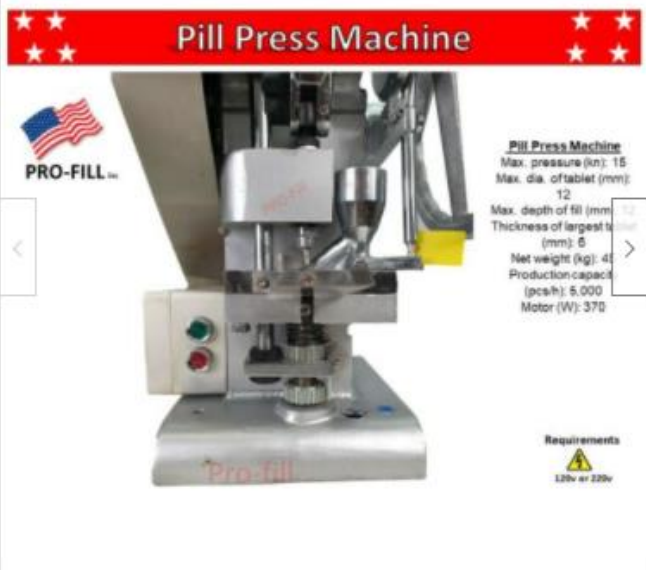
Suicide Deaths



Factors Leading to Increased Overdose Deaths

Fentanyl-involved Overdoses

- The major driver for recent surge in overdose deaths, nationwide
- Refers to fentanyl and analogs (which may vary significantly in potency)
- Significant regional variations are present: most prominent in NE and Great Lakes region, followed by Southeast.
- Often sold as heroin – referred to as Fentanyl-Adulterated or Substituted Heroin (FASH)
 - cheaper to produce than heroin
 - Has become more widely available (Sources: China, Mexico, India)
- Demand has expanded – a survey of PWUD showed a preference for fentanyl of 27-44%



Pill Machine
 🔥 1 watched in last 24 hours

Condition: New

Price: **US \$3,361.50**
[\\$162 for 24 months with PayPal Credit*](#)

30-day returns | Free shipping

Shipping: **FREE** Standard Shipping | [See details](#)
 Item location: North Hollywood, California, United States
 Ships to: United States | [See exclusions](#)

Delivery: Estimated between Mon. May. 24 and Tue. May. 25

Payments:

PayPal CREDIT
 *\$162 for 24 months. Minimum purchase required. | [See details](#)

Earn up to 5x points when you use your [Blue Card](#) [more](#)

Returns: 30 day returns. Buyer pays for return shipping | [See details](#)

Ebay.com



NBMelavia
 1,052 sales | 4.9 ★★★★★ (234 reviews)

Mold pills

\$29.00 ✓ In stock

Add to cart

Highlights

- Handmade
- Materials: silicone

Description

Mold pills.

etsy.com

NEWS

These fake oxycodone pills are killing Oklahomans

Josh Dulaney

Published 1:05 a.m. CT Oct. 9, 2020 | Updated 1:24 a.m. CT Oct. 9, 2020



At least 10 Oklahomans have died in the last five months from fake oxycodone pills, and the Oklahoma Bureau of Narcotics is warning that more people could be at risk.

Two people in Grady County died this week from overdosing on the pills, which tested positive for the powerful opioid fentanyl, officials said.

“Fentanyl is a powerful and cheap drug that can be 100 to 1,000 times more potent than morphine or heroin,” agency spokesman Mark Woodward said in a news release. “It is often purchased on the black market by drug organizations who use it as a filler in heroin, or press the powder into pills that resemble legitimate U.S. pharmaceuticals.”



OBN evidence photo *The Oklahoman*

oklahoman.com

Opioid Overdoses – Risk Factors

- post-detox
- release from incarceration
- polysubstance use
- IVDU
- Fentanyl-specific RF are less well-established:
 - Frequent drug-combining
 - Fentanyl-seeking
 - PTSD
- Social factors: unstable housing, incarceration, public injecting, economic stagnation, economic and family distress, ,unemployment, low social capital

Pandemic: Changes in Service Utilization

- According to the Center for Medicare & Medicaid Services, substance use disorder service utilization fell by 3.6 million services (13% decline) when compared to 2019.
- Increases in telehealth have been noted across MH and SUD providers and have been shown to help individuals remain engaged in care.
- Thornston et al. 2020: Study of Texas PMP did not show a significant decline in buprenorphine prescriptions or patients

Solutions

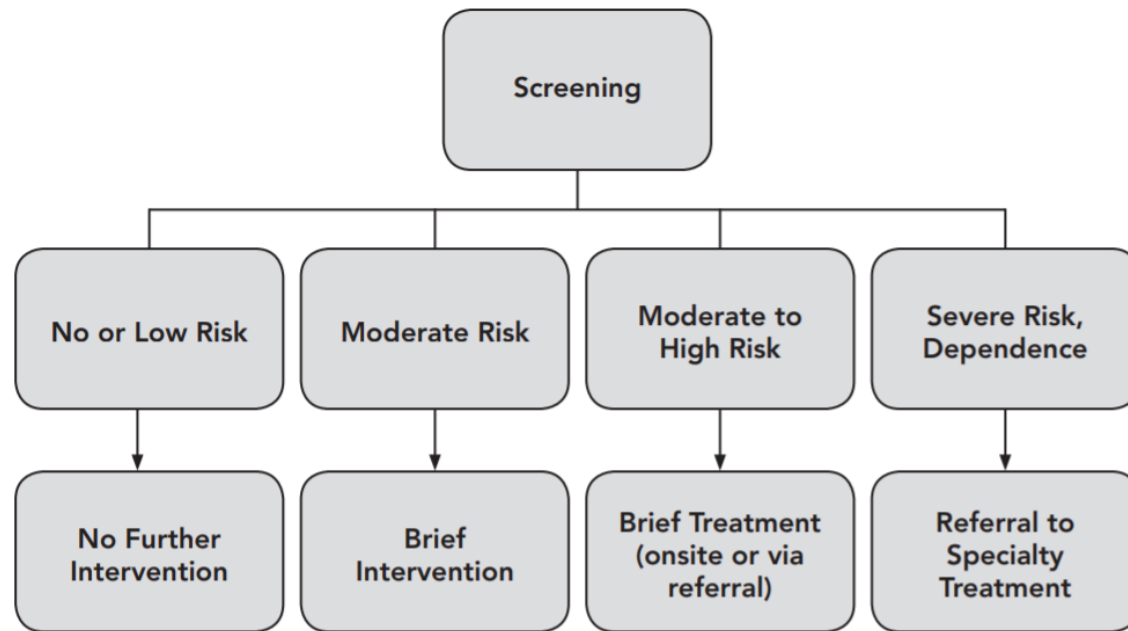
Preventing Overdose Deaths – Harm Reduction

- Naloxone (Narcan)
 - Evidence: Effective in reducing overdose deaths: Take-home naloxone program in British Columbia: Irvine et al. 2017: Program distributed 19,074 kits; an estimated 298 deaths were averted (95% CI 91-574). Follow-up study (Moustaqim 2020): 40,903 kits used for reversals out of 149,999 distributed.
 - Who should receive?
 - Pts rx opioids
 - PWUD
 - Friends & family of PWUD
 - Training videos, sign-up for delivered Narcan at Okimready.org; also nextdistro.org

Preventing Overdose Deaths – Harm Reduction

- Fentanyl test strips
 - Less direct evidence for reducing mortality; good evidence that strips are effective in detecting the presence of fentanyl and similarly structured analogues
 - Direct and indirect effects
 - Nextdistro.org
 - Dancesafe.org (\$2 each)

Screening / Early Intervention



Alcohol Use Disorders Identification Test-Concise (AUDIT-C)

General Instructions
The Alcohol Use Disorders Identification Test-Concise (AUDIT-C) is a brief alcohol screening instrument. Please give a response for each question.

Segment: --
Visit Number: --

1. How often do you have a drink containing alcohol?
 Never 2-3 times a week
 Monthly or less 4 or more times a week
 2-4 times a month

2. How many standard drinks containing alcohol do you have on a typical day?
 1 or 2 7 to 9
 3 to 4 10 or more
 5 to 6

3. How often do you have six or more drinks on one occasion?
 Daily or almost daily Less than monthly
 Weekly Never
 Monthly

Drug Screening Questionnaire (DAST)

Using drugs can affect your health and some medications you may take. Please help us provide you with the best medical care by answering the questions below.

- methamphetamines (speed, crystal) cocaine
 cannabis (marijuana, pot) narcotics (heroin, oxycodone, methadone, etc.)
 inhalants (paint thinner, aerosol, glue) hallucinogens (LSD, mushrooms)
 tranquilizers (valium) other _____

How often have you used these drugs? Monthly or less Weekly Daily or almost daily

1. Have you used drugs other than those required for medical reasons?	No	Yes
2. Do you abuse more than one drug at a time?	No	Yes
3. Are you always able to stop using drugs when you want to?	No	Yes
4. Have you ever had blackouts or flashbacks as a result of drug use?	No	Yes
5. Do you ever feel bad or guilty about your drug use?	No	Yes
6. Does your spouse (or parents) ever complain about your involvement with drugs?	No	Yes
7. Have you neglected your family because of your use of drugs?	No	Yes
8. Have you engaged in illegal activities in order to obtain drugs?	No	Yes
9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	No	Yes
10. Have you had medical problems as a result of your drug use (e.g. memory loss, hepatitis, convulsions, bleeding)?	No	Yes

0 1

Have you ever injected drugs? Never Yes, in the past 90 days Yes, more than 90 days ago

Have you ever been in treatment for substance abuse? Never Currently In the past

Treatment

- SUDs should be treated as chronic disease, with multimodal approach
- Rates of treatment are low: **only 1 out of 5 receive services**
- Medical interventions: screening, motivational interviewing
 - AUD – naltrexone, acamprosate, disulfiram, topiramate*
 - OUD – buprenorphine, methadone, naltrexone (Vivitrol)
 - Methamphetamine – some initial evidence for bupropion/naltrexone (Trivedi et al. 2021)
 - Cannabis – weak evidence for gabapentin*
- Psychosocial Interventions: motivational enhancement therapy, cognitive behavioral therapy, contingency management, 12-step facilitation, MATRIX model
- Peer-led groups: AA, NA, Celebrate Recovery, SMART recovery , Recovery Dharma

Treatment Setting

- Multidimensional assessments assist with matching a patient and their identified needs with a level of treatment. Factors include withdrawal potential, medical and psychiatric conditions, readiness to change, relapse potential, and living environment
 - Outpatient Services
 - Intensive Outpatient (9h/wk)
 - Partial Hospitalization (20h /wk)
 - Residential treatment
 - Medical admission
- **Length of engagement matters!**

findtreatment.samhsa.gov

The screenshot displays the SAMHSA Find Facility locator tool. The browser address bar shows `findtreatment.samhsa.gov/locator`. The SAMHSA logo and "Substance Abuse and Mental Health Services Administration" are visible at the top left. The "Find Facility" search bar contains the address "1104 NW 50th St, Oklahoma City, OK 73118, USA" and a "Search Facilities" button. Below the search bar, filters are set for "Distance" (100 miles) and "Service" (Substance Use (SU), Mental Health (MH), SU & MH, Health Care Centers, Buprenorphine Practitioners, Veterans Affairs). The "Services Selected" panel shows "Type of Care" with "Substance use treatment" and "Detoxification" selected. The "Facility Services Selection" panel shows "Substance Use Services" with "Substance use treatment" and "Detoxification" selected, and "Service Settings" with "Hospital inpatient" selected. The map shows Oklahoma City, OK, with a red circle highlighting the search area. A legend in the bottom left corner identifies facility types: Substance Use (purple dot), Mental Health (yellow dot), Health Care Centers (green dot), and Buprenorphine Practitioners (blue dot). The map also shows surrounding states (Kansas, Arkansas, Texas) and cities (Wichita, Springfield, Branson, Amarillo, Fort Worth, Dallas, Shreveport, Jackson).

U.S. Department of Health & Human Services

SAMHSA

Substance Abuse and Mental Health Services Administration

Home About FAQs **Locator Map** States

Colorado

Map Satellite

Find Facility

1104 NW 50th St, Oklahoma City, OK 73118, USA **Search Facilities**

State County Distance miles

Service: Substance Use (SU) Mental Health (MH) SU & MH Health Care Centers Buprenorphine Practitioners Veterans Affairs

Services Selected **Clear All**

Type of Care

- Substance use treatment
- Detoxification

Facility Services Selection **Language Selection** **X**

Search **Search** **Search More Services**

Substance Use Services

Type of Care **All** **None** **Reverse**

- Substance use treatment
- Detoxification
- Transitional housing, halfway house, or sober home

Telemedicine **All** **None** **Reverse**

- Telemedicine/telehealth

Service Settings (e.g., Outpatient, Residential, Inpatient, etc.) **All** **None** **Reverse**

- Hospital inpatient
- Outpatient
- Residential
- Hospital inpatient detoxification
- Hospital inpatient treatment

Legend - Facility Type

- Substance Use
- Mental Health
- Health Care Centers
- Buprenorphine Practitioners

Google Keyboard shortcuts Map data ©2021 Google, INEGI 100 km Terms of Use

Opioid Use D/O Treatment

- Relapse rates of 80-90% at one year without medications
- 3 options: Buprenorphine, Methadone, Naltrexone
- Buprenorphine and Methadone demonstrate mortality benefits
- Decreases in overdose/suicide:
 - Vakkalanka et al. 2021: VA study – 9 yrs – current buprenorphine treatment was associated with a **4x decrease in risk of death** by overdose/suicide
- Decreases in mortality following an overdose
 - Larochelle et al. 2018: retrospective cohort study of 17,568 patients with a nonfatal unintentional overdose
 - Distinguished between patients w/ OUD who had received methadone, buprenorphine, naltrexone, or no medication in the period following an overdose
 - Compared to no medication, methadone and buprenorphine were associated with **decreased all-cause mortality and opioid-related fatalities**.
 - No associations between naltrexone and all-cause or opioid mortality were identified

Buprenorphine, Buprenorphine/Naltrexone

- Properties:
 - Partial agonist with strong binding affinity (can precipitate withdrawal)
 - Low intrinsic activity at mu opioid receptor (prevents euphoria, oversedation, respiratory suppression)
 - Compared to methadone, has lower risk of respiratory suppression in overdose, lower (but not zero) abuse potential, but slightly less treatment retention at 1 year
 - Available as oral sublingual; when conjugated with naloxone diminishes abuse potential; has long-acting injectable formulation
- HHS Updates: new guidelines exempt providers from training requirements and availability of psychosocial services to receive a waiver (up to 30 pts); an application (“[Notice of Intent](#)”) is still required; also, treatment can be initiated via telehealth
- Tips

Prevention

- School-based programs: *skill building, refusal skills, norming*
- Family based programs: *parenting, substance refusal skills*
- College prevention programs: personalized feedback, protective strategies to moderate, challenge expectations
- Environmental interventions:
 - Days/hours sales restrictions
 - Density restrictions
 - Advertising limits

Reducing Suicide: Screening / Safety Plans

- Suicide requires systematic screening and assessment
 - Individual risk factors
 - Protective factors
 - Overall risk
 - Imminent risk
- Those at elevated risk should have a safety plan, receive treatment
 - Includes coping strategies, warning signs, people to contact, emergency services, and ways to keep environment safe
 - Apart from lithium and clozapine, medications have limited effect in modulating suicide risk.

NATIONAL

SUICIDE PREVENTION LIFELINE

1-800-273-TALK (8255)

suicidepreventionlifeline.org

RED NACIONAL

de PREVENCIÓN del SUICIDIO

1-888-628-9454

prevenciondelsuicidio.org

IN A CRISIS?

Text HOME to 741741 to connect with a Crisis Counselor

Free 24/7 support at your fingertips US and Canada: 741741 UK: text 85258 | Ireland: text 50808

MY3
MENTAL HEALTH ASSOCIA...

MY3 - Support Network

MENTAL HEALTH ASSOCIA...

GET

Virtual Hope Box

National Center for Telehealth & Technology

Patient Safety Plan Template

Step 1: Warning signs (thoughts, images, mood, situation, behavior) that a crisis may be developing:

- _____
- _____
- _____

Step 2: Internal coping strategies – Things I can do to take my mind off my problems without contacting another person (relaxation technique, physical activity):

- _____
- _____
- _____

Step 3: People and social settings that provide distraction:

- Name _____ Phone _____
- Name _____ Phone _____
- Place _____ 4. Place _____

Step 4: People whom I can ask for help:

- Name _____ Phone _____
- Name _____ Phone _____
- Name _____ Phone _____

Step 5: Professionals or agencies I can contact during a crisis:

- Clinician Name _____ Phone _____
Clinician Pager or Emergency Contact # _____
- Clinician Name _____ Phone _____
Clinician Pager or Emergency Contact # _____
- Local Urgent Care Services _____
Urgent Care Services Address _____
Urgent Care Services Phone _____
- Suicide Prevention Lifeline Phone: 1-800-273-TALK (8255)

Step 6: Making the environment safe:

- _____
- _____

Safety Plan Template ©2008 Barbara Stanley and Gregory K. Brown, is reprinted with the express permission of the authors. No portion of the Safety Plan Template may be reproduced without their express permission. Completing and submitting the form on this web page http://www.suicidepreventionlifeline.org/Page_8.html constitutes permission to use the template.

The one thing that is most important to me and worth living for is:

Conclusions

1. The COVID-19 pandemic has, through direct and indirect pathways, increased risk factors for substance use and substance use disorders. Use of alcohol, cannabis, and other illicit substances appears to have risen during this timeframe.
2. One of the most concerning findings is an increase in overdose deaths, **which have increased 30%** , year over year.
3. We are in a critical window to “flatten the curve” of overdose death and substance-related epidemics. This can be accomplished through screening, evidence-based interventions & effective treatment (especially MOUD), and harm-reduction strategies.