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FENTANYL ABUSE IN ADOLESCENCE

The New Opioid Epidemic?



BACKGROUND INFORMATION AND QUESTIONS

- **What is an opioid and how is it different from other illicit substances?**
- **What on earth is fentanyl and why am I hearing so much about it?**
- **How does fentanyl affect someone and why is it considered so dangerous?**
- **How is all of this affecting kids?**

OPIOIDS

- **Opioid - Describes entire class of non-endogenous (natural or synthetic) and endogenous compounds that bind to one of more types of opioid receptors**
 - **Eg: Heroin, Fentanyl, Morphine, Methadone, etc.**
- **Brain and other organs in body have specific receptors that endogenous and exogenous opioids bind to, causing downstream physiologic effects**
 - **Endogenous opioids play several critical roles in multiple organ systems**
 - **Act rapidly in response to pain**
 - **Play role in stress-response systems of neuroendocrine system**
 - **Participate in GI function**
 - **Have pulmonary function**

OPIOIDS (CONT.)

Additional opioid effects:

- CNS Sedation, Analgesia, Euphoria
- GI → Constipation, Nausea
- Endo → ↓Testosterone, ↑Prolactin, ↓FSH, LH
- Urinary → Retention
- Cardiovascular → Vasodilatation, ↑QTc
- Miosis



WHAT IS FENTANYL

- **Incredibly POTENT synthetic opioid**
- **Used as a prescribed pain medication since 1968**
 - **Often incredibly helpful for patients with severe chronic pain symptoms such as bone cancers**
 - **Initially prepared exclusively for injection, now available in pill, patch, and transmucosal “lollipop” forms**
- **Illegal manufacturing and distribution of fentanyl began as early as 1979**
- **Causes same physiologic effects, positive and negative, as other opioids**



POTENCY - THE REAL CAUSE FOR CONCERN

Opioid	Relative Potency	Lethal Dose
Morphine	1x	1 Pea
Diacetylmorphine (heroin)	2x	1 Sun Flower Seed
Fentanyl	100x	1 Sesame Seed
Sufentanil	500x	1 Grain of Sand
Carfentanil	10,000x	0.5 Grain of Salt

Opioid Crisis

Lethal Opioid Doses

Opioid	FDA	Relative Potency	Lethal Dose
Morphine	✓	1x	1 Pea 
Heroin	✓	2x	1 Sunflower Seed 
Fentanyl	✓	100x	1 Sesame Seed 
Sufentanil	✓	500x	1 Grain of Sand 
Carfentanil	✗	10,000x	0.5 Grains of Salt 



THE UGLY TRUTHS

Figure 1. National Drug-Involved Overdose Deaths*
Number Among All Ages, by Gender, 1999-2020

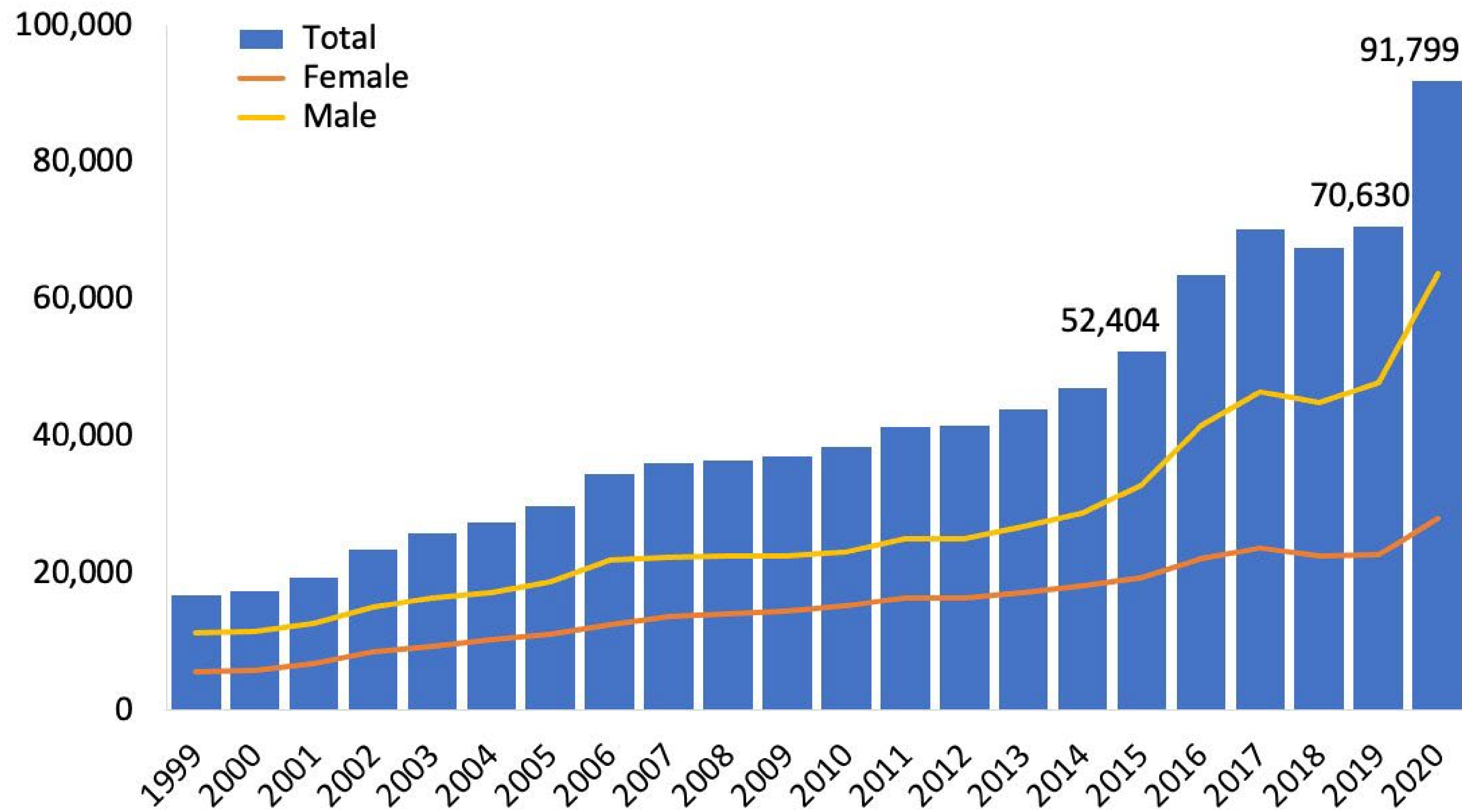
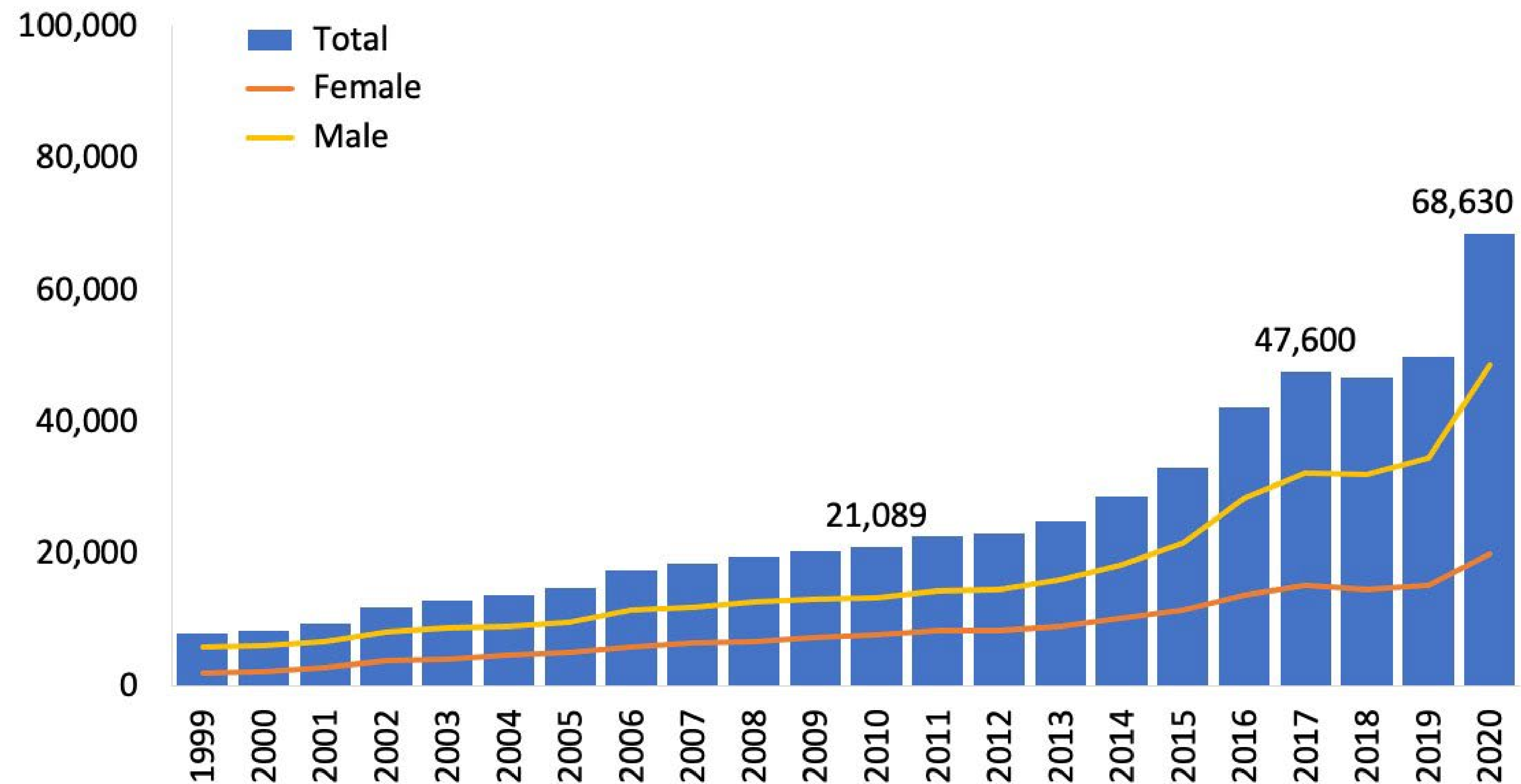
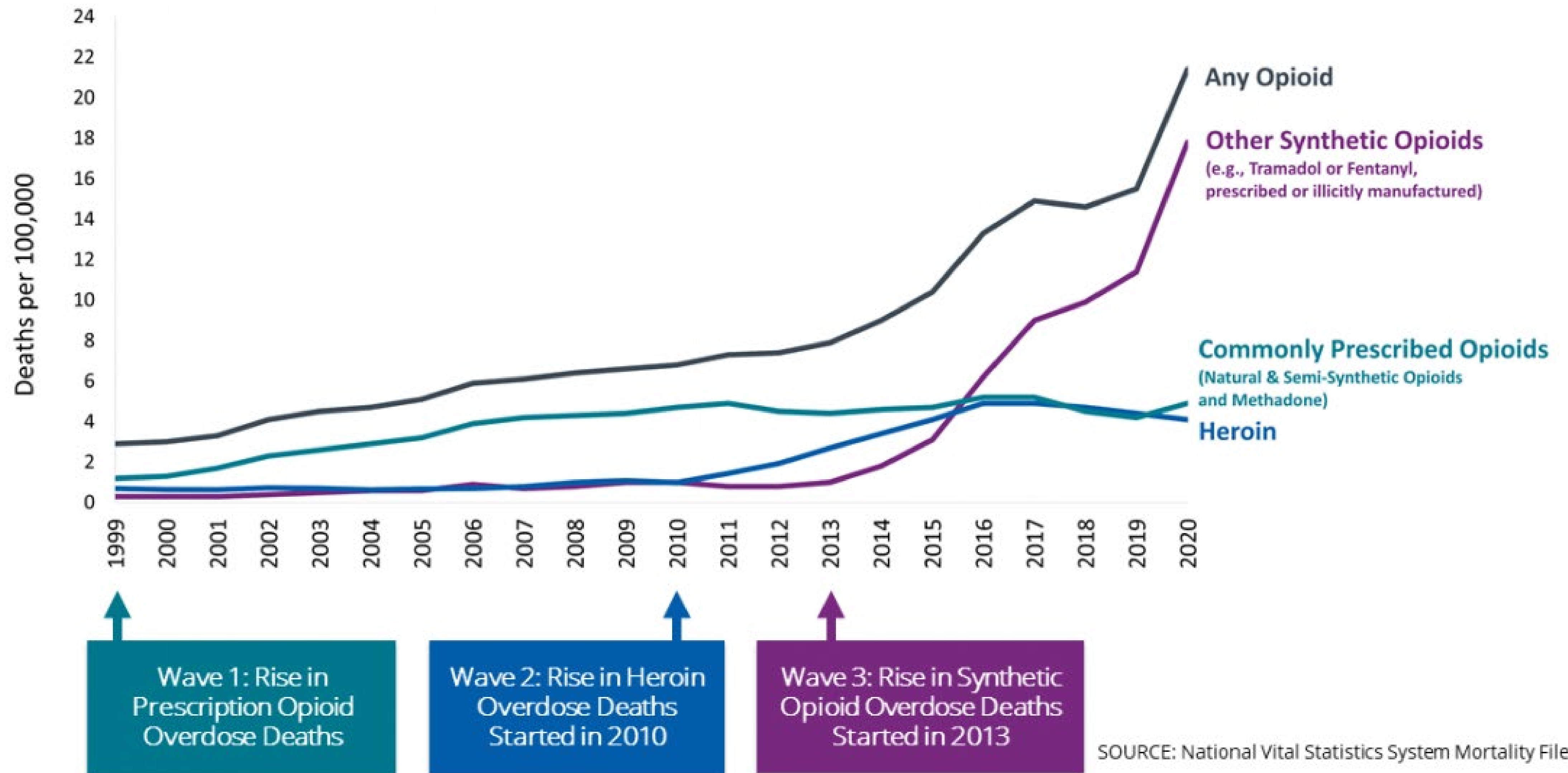


Figure 3. National Overdose Deaths Involving Any Opioid, Number Among All Ages, by Gender, 1999-2020

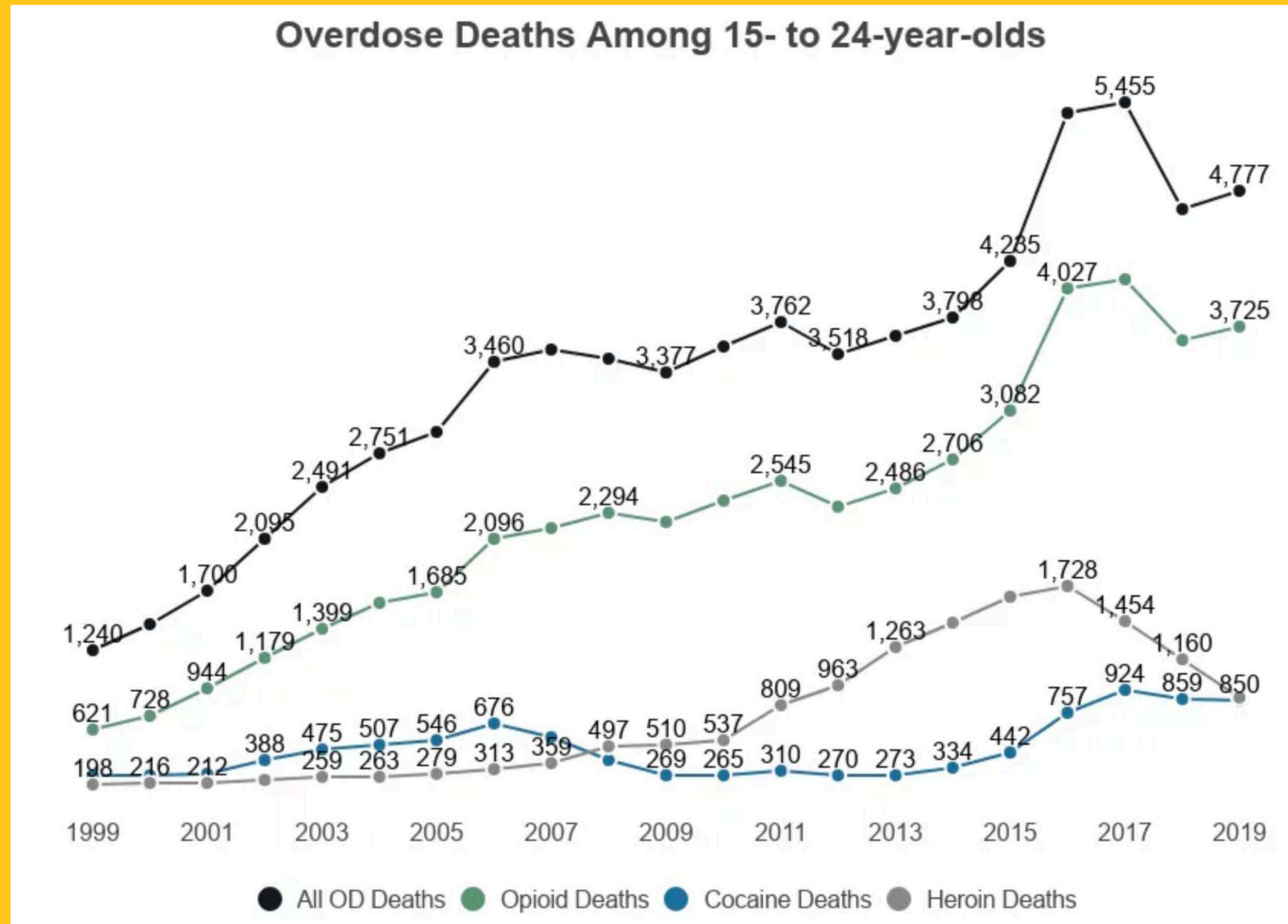


*Among deaths with drug overdose as the underlying cause, the any opioid subcategory was determined by the following ICD-10 multiple cause-of-death codes: natural and semi-synthetic opioids (T40.2), methadone (T40.3), other synthetic opioids (other than methadone) (T40.4), or heroin (T40.1). Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2020 on CDC WONDER Online Database, released 12/2021.

Three Waves of Opioid Overdose Deaths



ADOLESCENT/YOUNG ADULT IMPACT



LOCALLY

- **Include multiple Kern County teen overdose deaths**
- **Recently a 13yo child was arrested for possession of 150 Fentanyl pills**
- **Local high school with multiple alleged fentanyl overdoses**
- **My own anecdotes**

TREATMENT AND CONSIDERATIONS

- Medication Assisted Treatment
 - 2 primary medication options
 - Only Buprenorphine is FDA approved in adolescent patients (16+)



REFERENCES

- Bustamante, J. (2022, April 6). *Drug Use Among Youth: Facts & Statistics*. NCDAS. Retrieved October 21, 2022, from <https://drugabusestatistics.org/teen-drug-use/>
- *SUDORS Dashboard: Fatal Overdose Data | Drug Overdose | CDC Injury Center*. (n.d.). Retrieved October 21, 2022, from <https://www.cdc.gov/drugoverdose/fatal/dashboard/index.html>
- *Overdose Deaths Continue to Increase*. (2020, December 7). Overdose Lifeline. Retrieved October 21, 2022, from <https://www.overdoselifeline.org/news/overdose-deaths-continue-to-increase/>
- Lin, S. (2022, September 13). *Bakersfield student arrested after school employee overdoses*. Los Angeles Times. Retrieved October 21, 2022, from <https://www.latimes.com/california/story/2022-09-13/middle-school-student-arrested-fentanyl-overdose-bakersfield>

WHERE YOU CAN GET NARCAN

- **All 22 Kern County Libraries**
- **Martin's Meats & Catering @ 801 21st St**
- **Clinica Sierra Vista @ 1015 Baker Street**
- **Adventist Health ER @2615 Chest Ave**

QUESTIONS