


OPIOID EPIDEMIC



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OBJECTIVE

1. INTRODUCTION
 2. DATA QUESTIONS
 3. ANALYSIS
 4. RECOMMENDATIONS
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INTRODUCTION

- As of October 16, 2017, the National Institutes of Health declared the *opioid epidemic* a public health emergency. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5993682/>

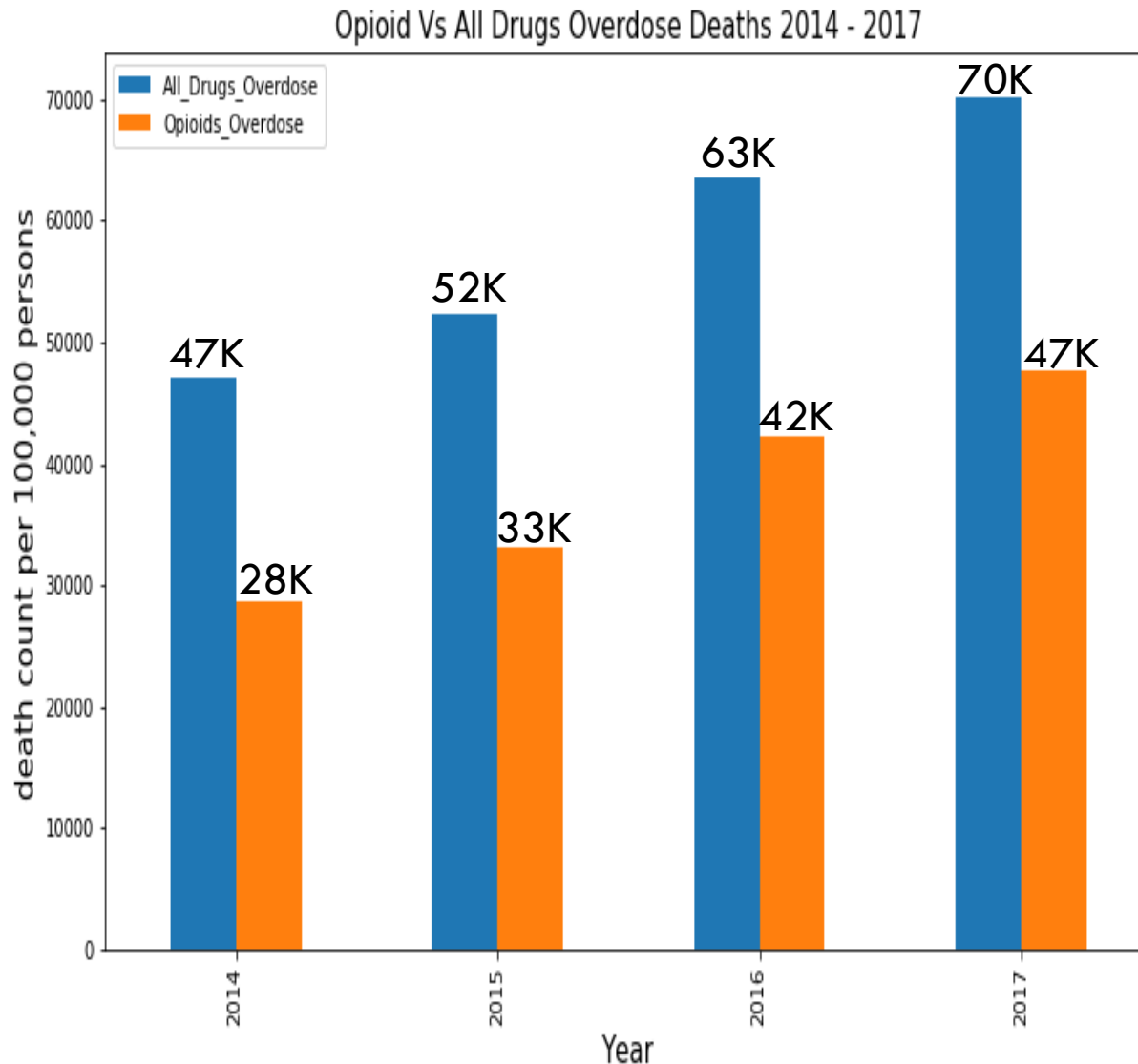
Background:

- After taking care of patients with a drug addiction, celebrating some success stories but yet losing some to the epidemic, I'm always left with questions.
 1. What can I do with the knowledge & experience I have to help with this problem?
 2. How can I use data to educate myself and the community about the epidemic?
- Data used for this project is provided by Centers for Disease Control (CDC) and Centers for Medicare and Medicaid Services (CMS) from 2014-2017.

DATA QUESTIONS

1. What is the national drug overdose death count and out of this number how many have opioids as the cause of death?
2. What's the opioid overdose death count? And, what's the comparison between males and females?
3. How does prescription opioids & synthetic opioids impact the overdose death count?

ANALYSIS



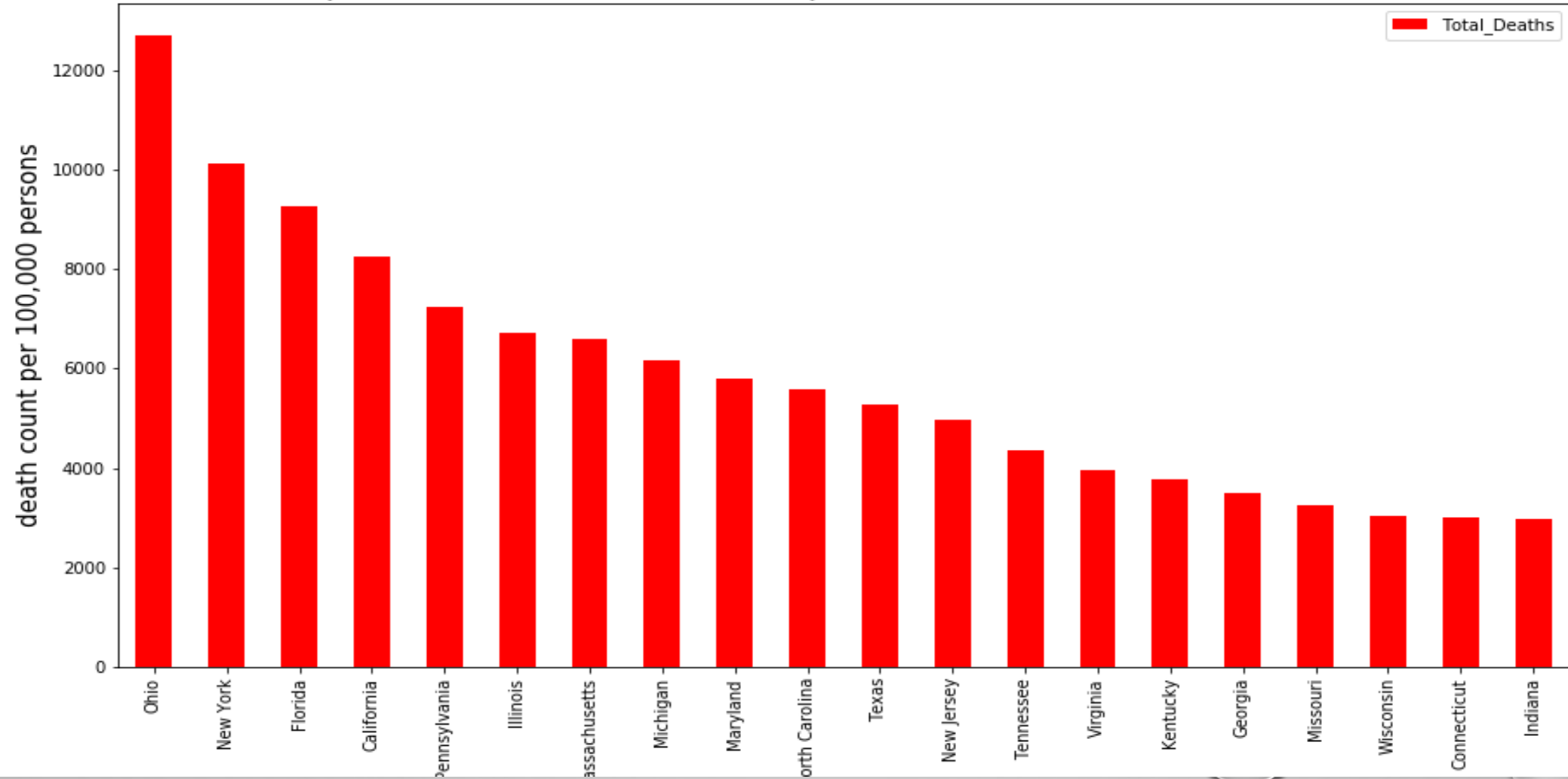
1. National drug overdose death count since 2014 to 2017:

- The number of all drugs overdose deaths has doubled. The same trend is also true for opioid related deaths.
- It's an alarming finding learning that opioid only accounts for more than half of all overdose death cases.
- These death counts are lower than they are occurring due to a lag time. According to CDC, a "lag time" is the time when the death occurred and when data is available for analysis.

<https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

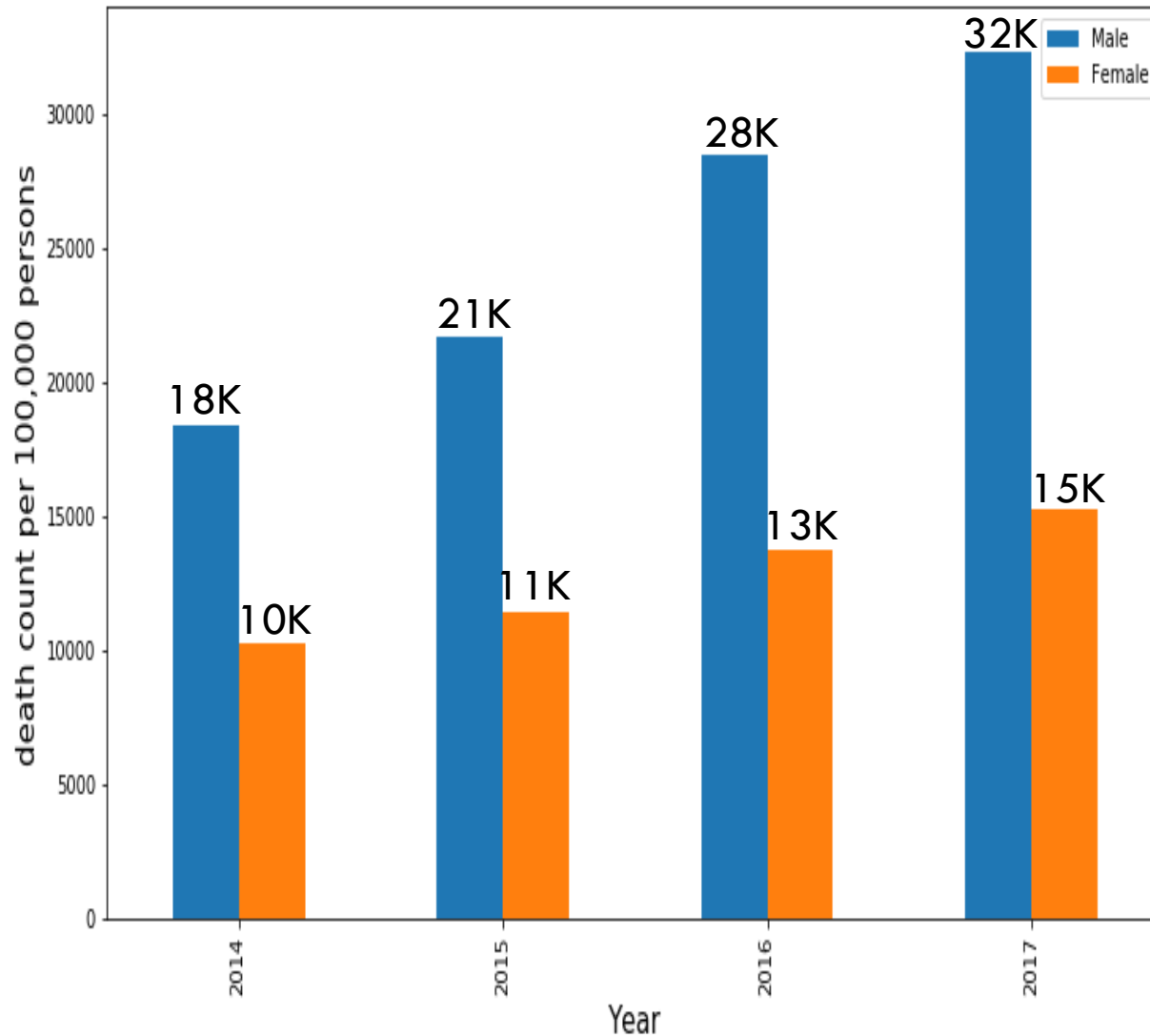
ANALYSIS

Top 20 States with the most opioid overdose deaths, 2014-2017



ANALYSIS

Opioid Overdose Deaths By Gender 2014 - 2017



2. Opioid overdose deaths by gender

- There are no studies that show reasons why men are more prone to opioid use than women.
- But, between 2014 and 2017 there's been a huge death count difference between the two; men at 14k and women at 5k.
- Since there are different types of opioids, which ones show the most deaths?

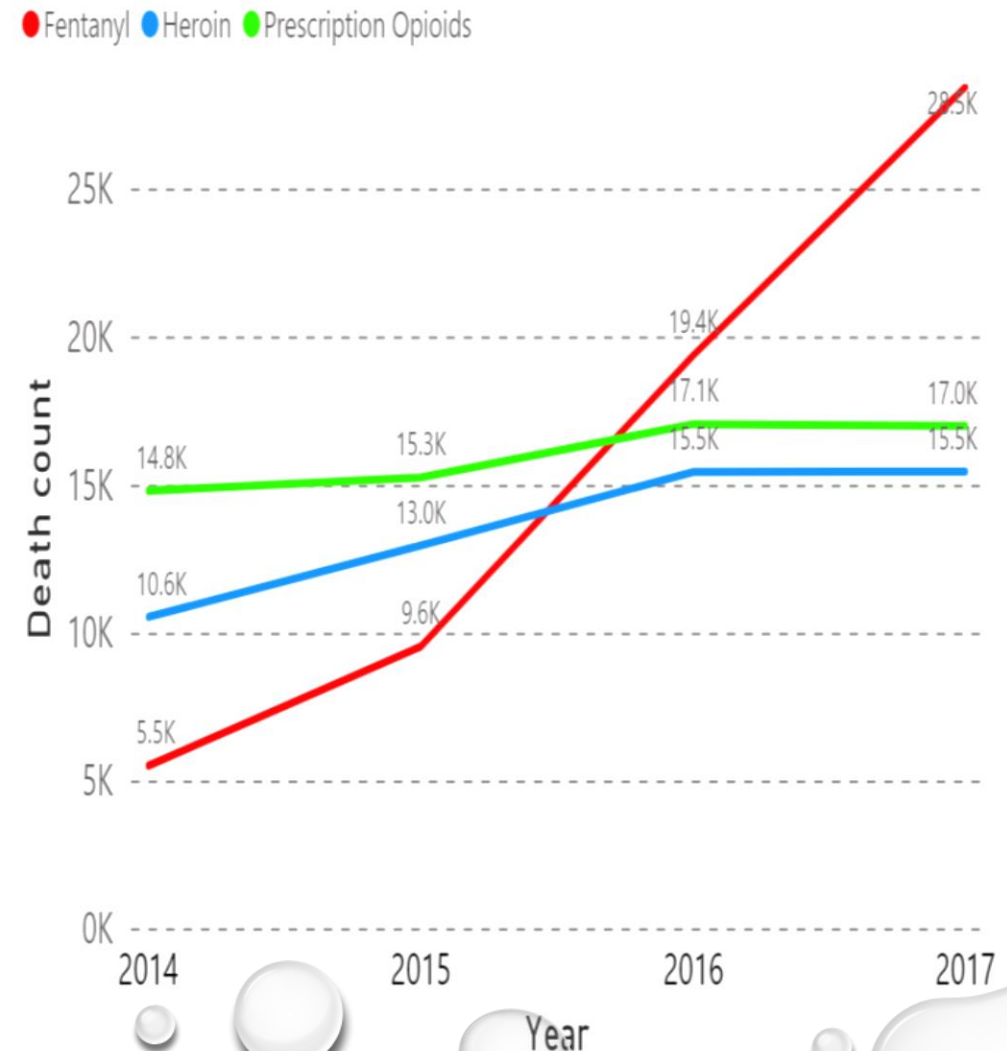
ANALYSIS

3. Prescription Vs. Synthetic opioids

- Prescription opioids are controlled and can only be dispensed to patients from licensed providers, mainly used for pain.
- Synthetic opioids are illegal/street drugs produced with the use of man-made chemicals. The two major ones affecting the nation are; fentanyl and heroin.
- CDC reports that *fentanyl is 50 times more powerful than heroin and 100 times more than morphine.*
- More fentanyl analogs that resemble fentanyl chemical structures are now coming out. Only 1 analog (Carfentanil) so far is detected in the nation and it's 10,000 times more potent than morphine.


<https://www.cdc.gov/drugoverdose/data/fentanyl.html>

Death count by drug type per 100,000 persons



RECOMMENDATIONS

- The Federal Government should mandate States to improve overdose deaths reporting. Prompt reporting will help reduce data quality issues. Having real time data will also assist the law enforcement target States in need combat the illegal production and distribution of illegal drugs especially fentanyl.
- The Prescription Drug Monitoring Programs (PDMPs) should develop a system where a patient prescription information can be accessed by all providers nationwide. This can be designed to access prescription history of controlled/scheduled drugs only linked with a social security number.



Thank you!!!