

[Unraveling the Waves of the Opioid Epidemic]



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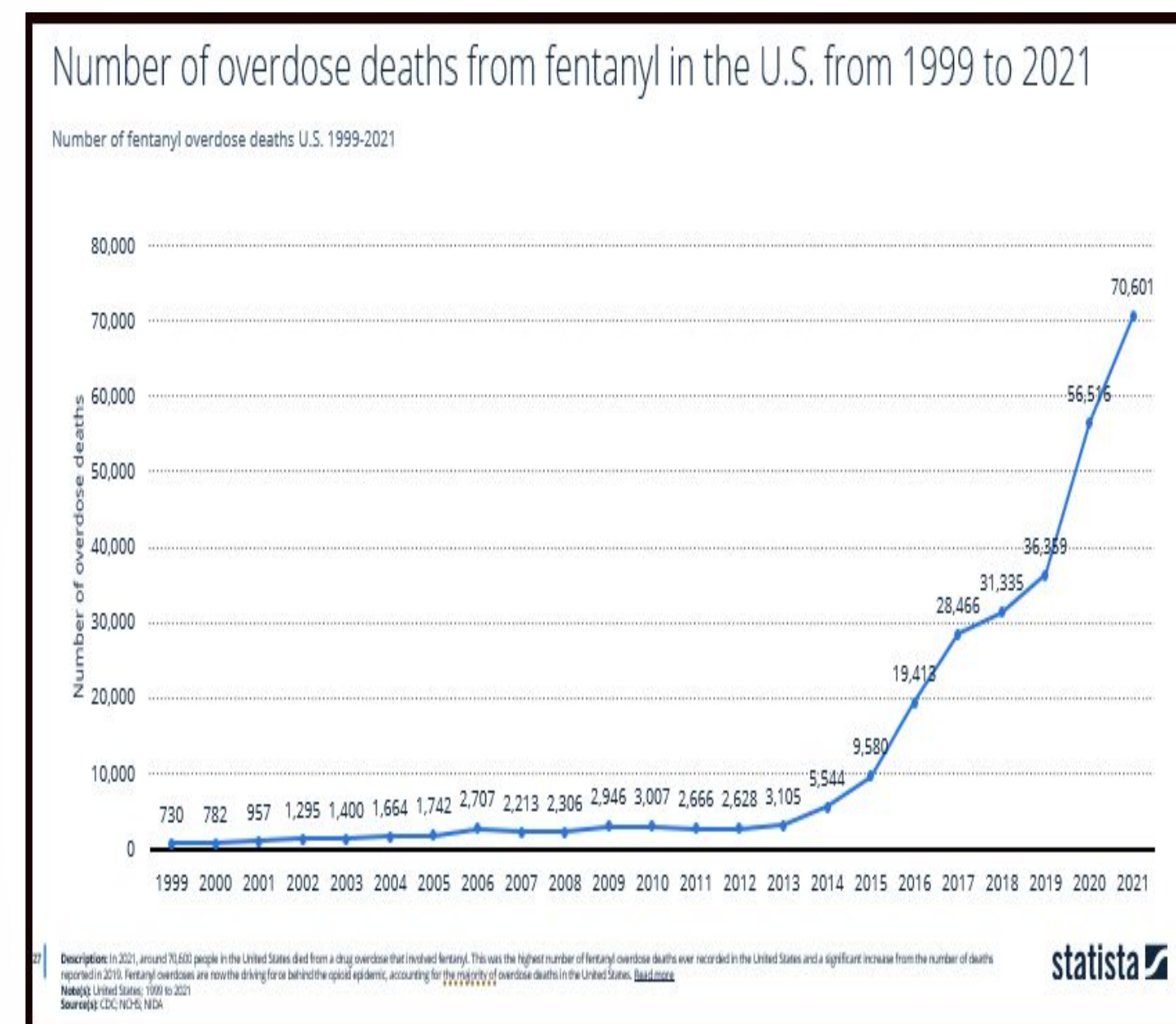
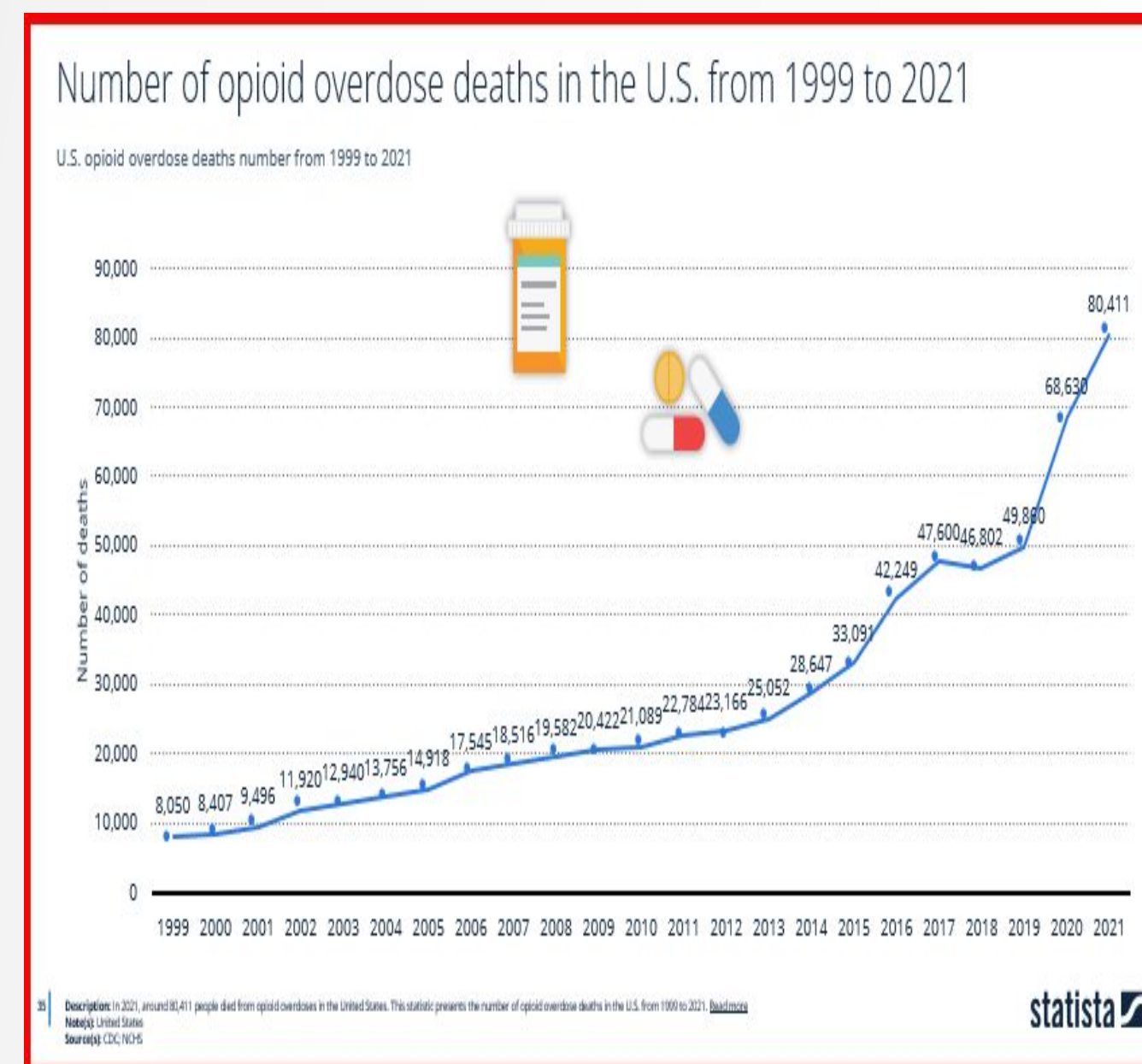


Abstract

US Drug overdose deaths have been increasing since 1999. Most drug overdose deaths are caused by prescription opioids and illegal substances like heroin and synthetics like fentanyl. The government declared Opioid overdose a public health emergency in 2017, and COVID further added to the challenge.

Despite a decrease in prescribed opioids since a peak in 2012, overdose deaths involving prescription opioids have not significantly decreased.

About 80,000 died from Opioids and 71,000 from Fentanyl overdose in 2021. Chronic pain contributes to opioid addiction. Pharmaceutical companies face thousands of civil lawsuits, and despite billions of dollars paid in settlements, most companies deny any wrongdoing. Many feel the financial penalties don't adequately address the harm, pain, and death caused by these companies. The rise of fentanyl has added a new dimension to the opioid epidemic (Elflein, 2022).



Background

The Opioid epidemic has had three waves: OxyContin, Heroin, and Fentanyl, and each wave has been more severe.

OxyContin: In the 1990s, the Opioid Crisis began when doctors prescribed more painkillers like OxyContin. In 2021, the death rate from opioid overdose was 24.7 per 100,000 deaths.

Key Figures: 8.71M people used prescription opioids for non-medical purposes in 2022.

Heroin: The opioid crisis saw a surge in heroin-related deaths in 2010, with peak rates in 2015 and 2016. Easy access to cheap heroin and its similarity to prescription opioids contribute to its use as a substitute.

Men are more likely to die from opioid overdose than women. In 2020, for the first time, non-Hispanic Black people had a higher opioid overdose death rate than whites since 2000.

Rural areas have been particularly impacted, and only three states saw a decline in overall drug overdose deaths from 2019 to 2020. West Virginia, Delaware, and Maryland had the highest rates of opioid overdose death in 2020, while Nebraska and Hawaii had the lowest.

Key Figures: 26,000 people took heroin for the first time in 2021; 9,173 overdose deaths from heroin in 2021.

Fentanyl: Fentanyl, a highly potent synthetic opioid, is causing a surge in overdose deaths. It's often mixed with other drugs without the user's knowledge. Non-Hispanic whites and American Indians or Alaska Natives had the highest rate of drug overdose involving Fentanyl in 2021. In 2020, 56,500 overdose deaths were attributed to Fentanyl compared to just 3,100 in 2013 (Elflein 2022).

Materials and Methods

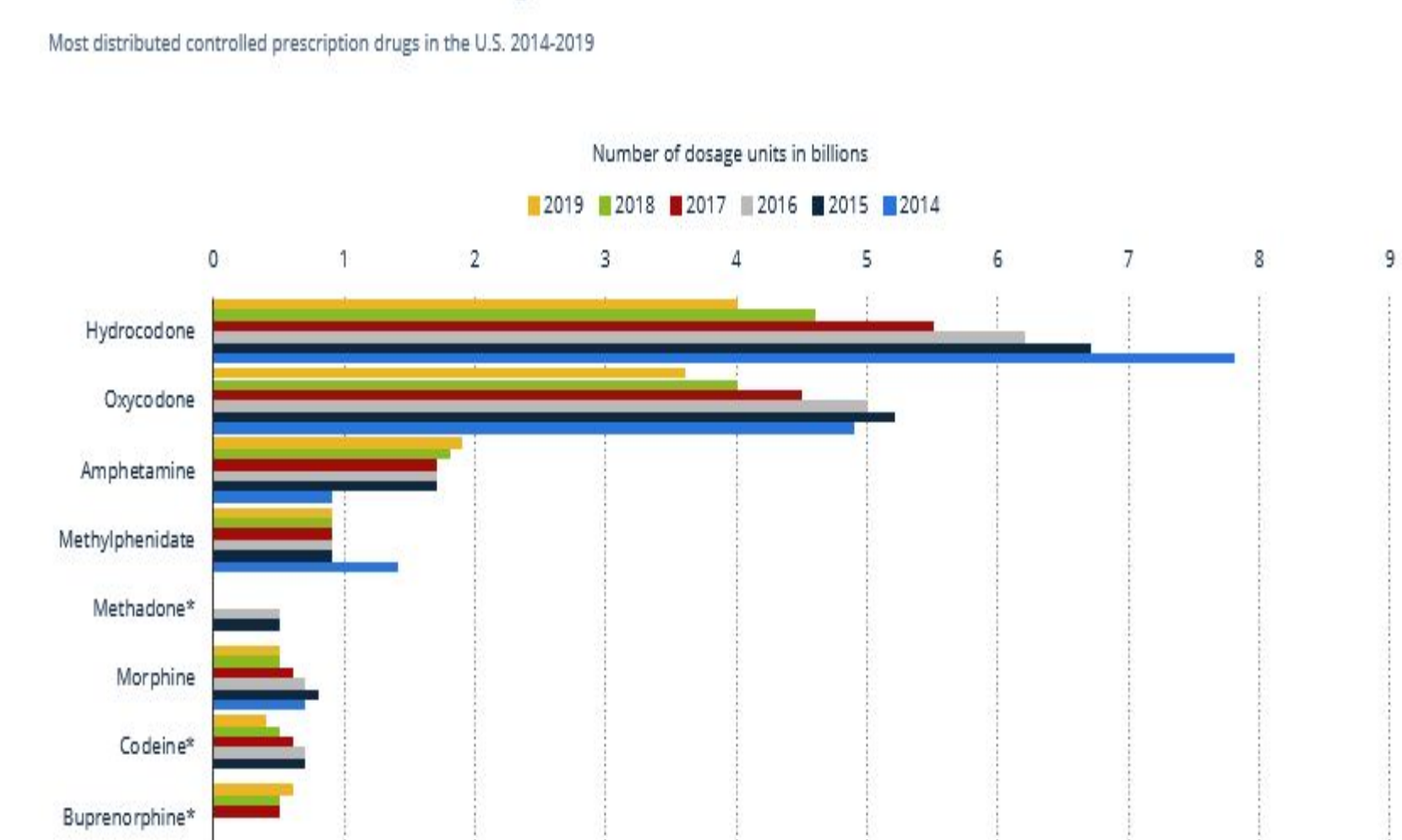
All of Us Research Program
Secondary Quantitative Data

Age at First Occurrence of Opioid Abuse

Age Group (First-Time)	Participants	Percentage
18-29	860/53,180	2%
30-39	1,520/72,180	2%
40-49	1,620/84,040	2%
50-59	1,820/103,020	2%
60-69	920/95,500	1%
70-79	160/54,920	0%
80-89	<20/15,120	0%
89+	<20/1,740	1%

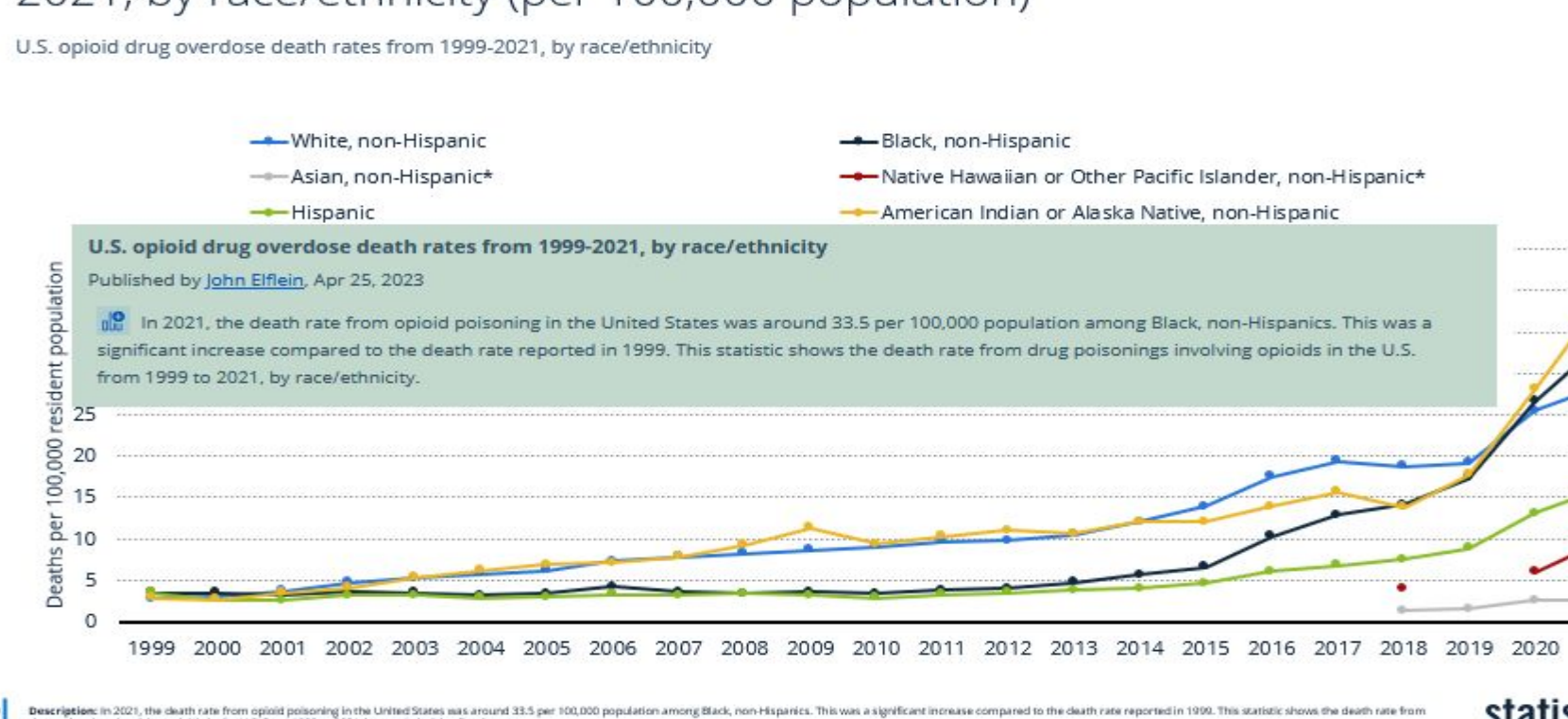
Appendix

Top controlled prescription drugs distributed in the United States from 2014 to 2019 (in billions of dosage units)



www.statista.com/statistics/650504/most-distributed-controlled-prescription-drugs-us/

Death rate from drug poisonings involving opioids in the U.S. from 1999 to 2021, by race/ethnicity (per 100,000 population)



Results

The results from All of US shows Doctors prescribe less opioids for seniors. Doctors must balance pain relief with potential side effects when treating chronic pain in patients of all ages.

Conclusion

It is important to consider non-addictive alternatives such as exercise, therapy, and acupuncture before resorting to prescribed pain relievers like Opioids. Opioids can be addictive and come with associated risks, as they are still classified as "drugs" and some are derived from heroin. It is crucial that doctors adequately inform their patients of these risks and consider alternative treatments before prescribing opioids. By embracing alternative treatments and making informed decisions, the health industry can minimize risks and promote safer and more effective pain management. Unfortunately, insurance coverage for these alternative treatments are limited.

Future Direction

Genetics4Health's research shows that personalized medicine can reduce adverse drug reactions and lower overall medical costs by tailoring pain management strategies to DNA.

Also, after All of Us collects enough raw data, they should apply for grants for Tableau to facilitate data-driven decision-making with a dashboard. The powerful software choice for data analysts, data scientists, and businesses.

Acknowledgments

<https://genetics4health.com/>
<https://www.statista.com/topics/3403/the-opioid-epidemic-in-the-us/#topicOverview>