

THE OPIOID EPIDEMIC: THE IMPACT OF COVID-19 AND RESULTING EFFECTS ON ORGAN TRANSPLANTATION

Nader Moazami, MD, Section Chief of Heart and Lung Transplant and Mechanical Circulatory Support Programs

Professor of Cardiothoracic Surgery

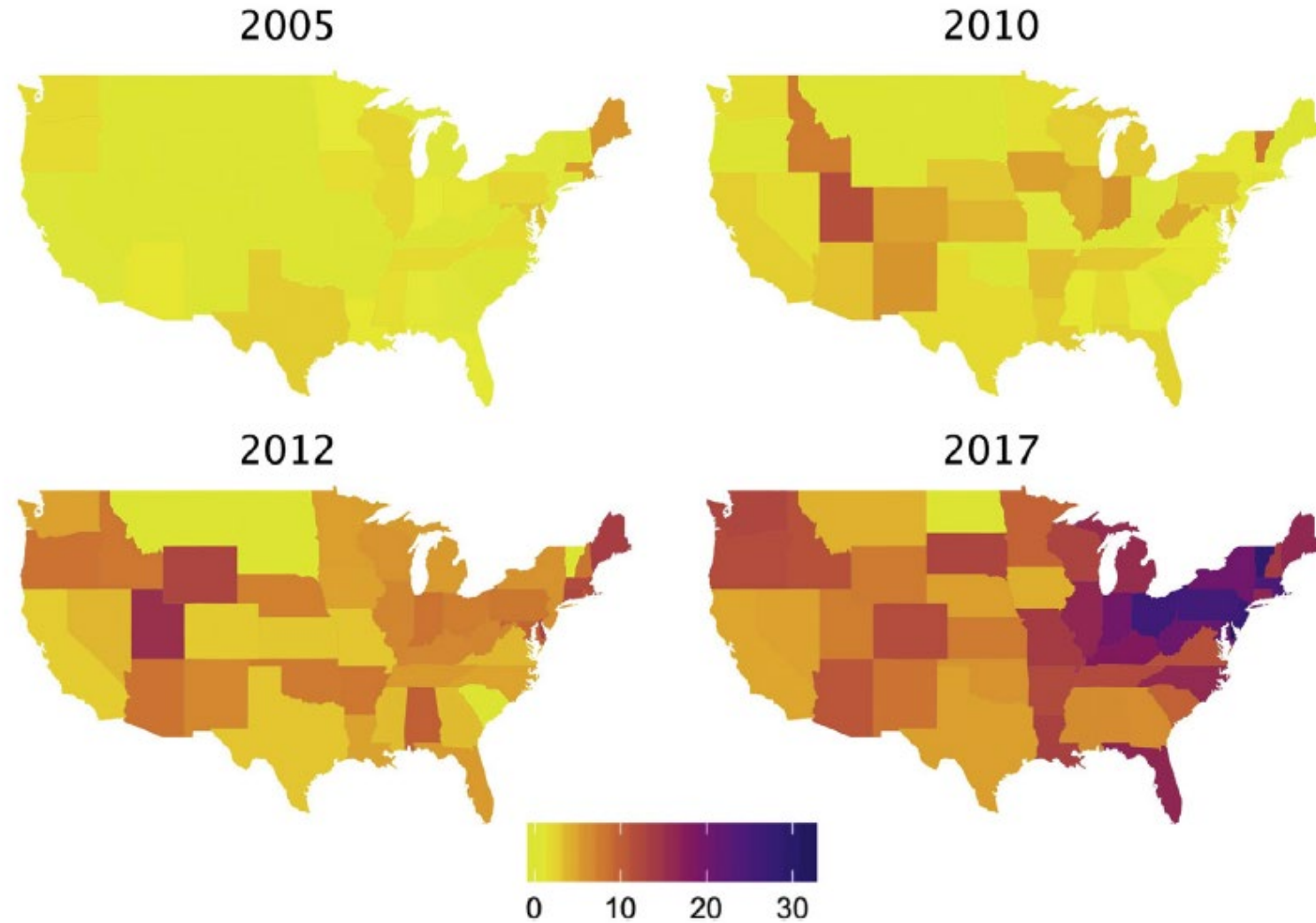
Department of Cardiothoracic Surgery, NYU Langone Health

No Relevant Disclosures

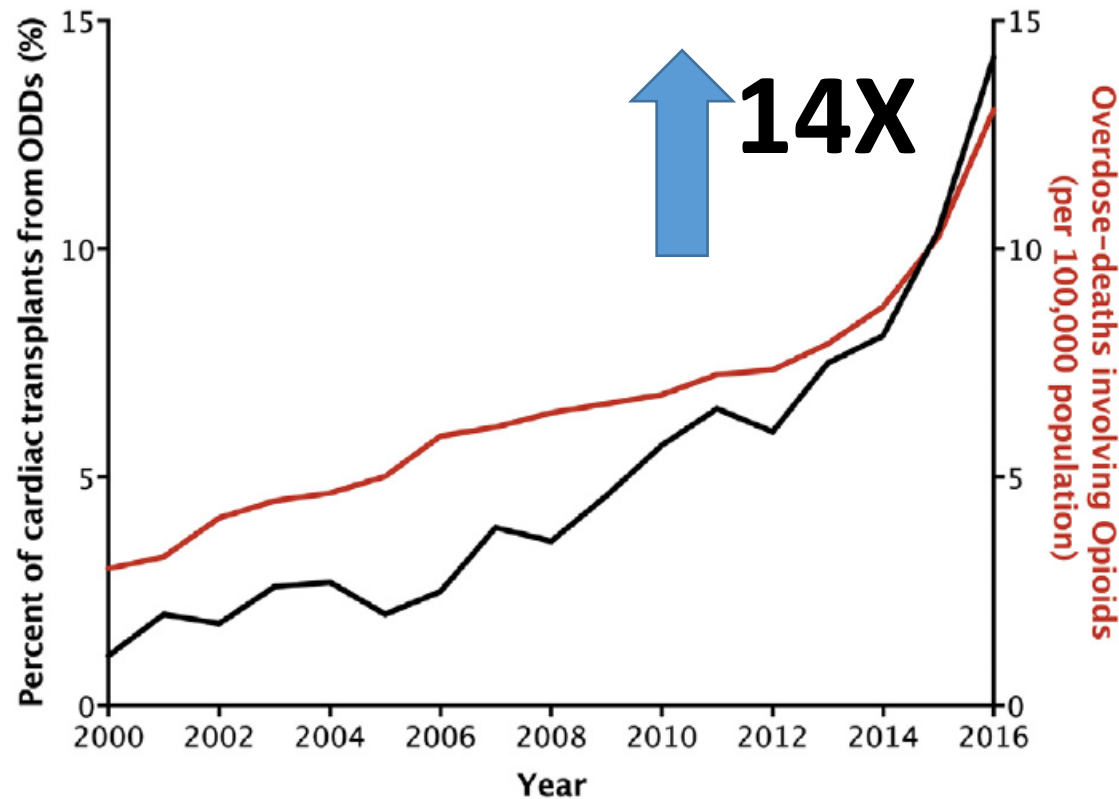
Before the COVID Crisis, there was the Opioid Crisis

- 136 individuals **DIE** in the U.S every day from an opioid overdose
- >840,000 have died since 1999
- Has this tragedy has resulted in an increased number of organ transplantation in the U.S.?

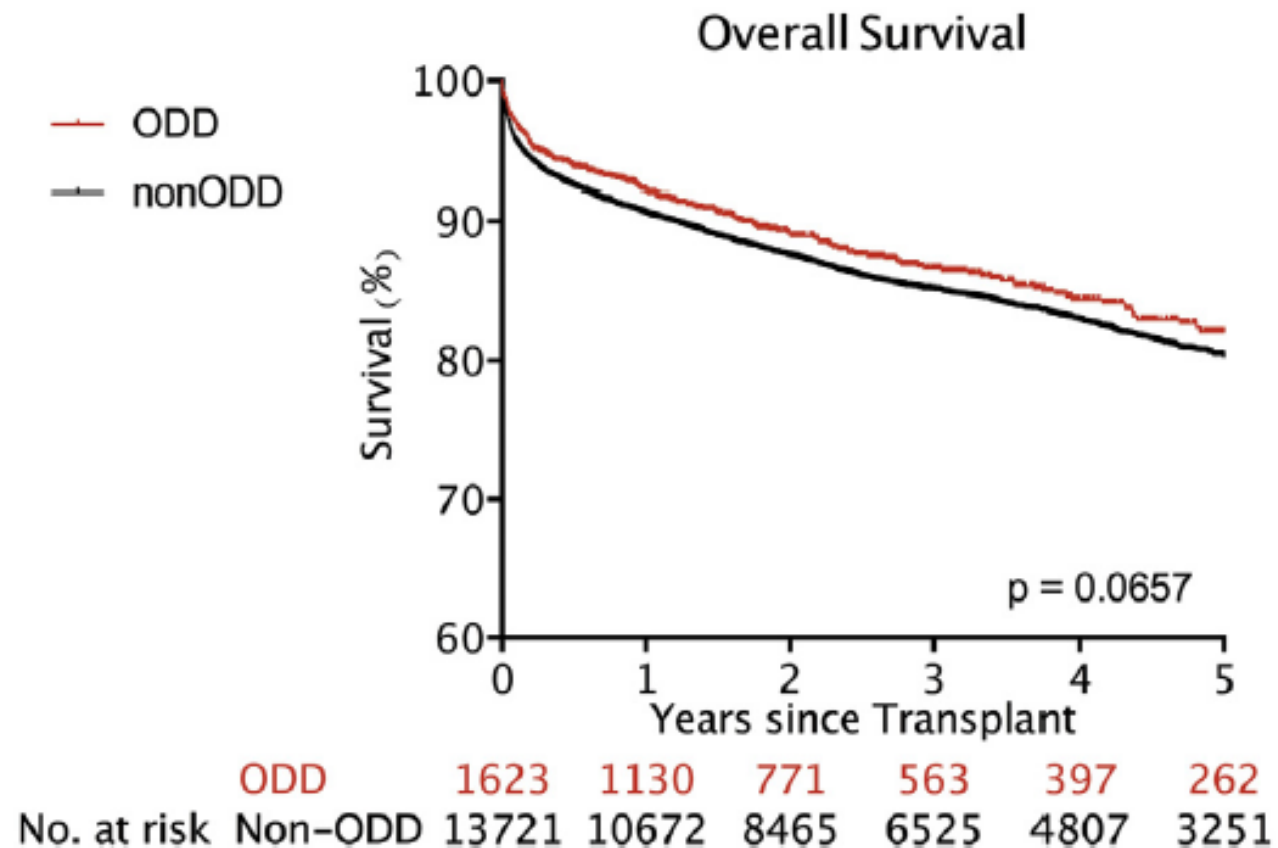
Percentage of Deaths by Drug Over-Dose



National Average Percentage of Heart Transplants in Deaths from Drug Over Doses



Survival After Heart Transplantation: Comparing Death from Drug Overdose to Others



What has been the Impact of the COVID
Pandemic?

The Opioid Crisis: An Epidemic Within the
Pandemic

Impact of COVID on Mental Health



Fear of death

Financial ruin

Boredom

Unemployment

Social distancing

- 80% of adults identify the pandemic as a significant source of stress
- 20% Report worsening mental Health
- Those with Substance Use Disorder (SUD) disproportionately affected

During late June, 40% of U.S. adults reported struggling with mental health or substance use*

ANXIETY/DEPRESSION SYMPTOMS



STARTED OR INCREASED SUBSTANCE USE



TRAUMA/STRESSOR-RELATED DISORDER SYMPTOMS



SERIOUSLY CONSIDERED SUICIDE†



*Based on a survey of U.S. adults aged ≥ 18 years during June 24-30, 2020

†In the 30 days prior to survey

For stress and coping strategies: bit.ly/dailylifecoping

CDC.GOV

bit.ly/MMWR81320

MMWR



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

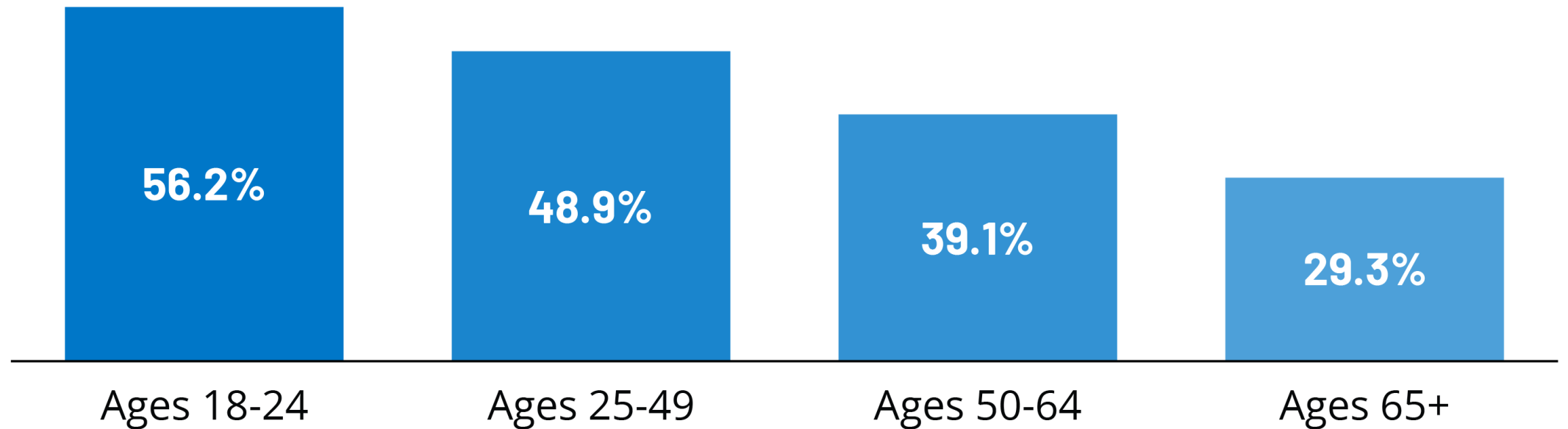
Centers for Disease Control and Prevention
MMWR

Weekly / Vol. 69 / No. 32

Morbidity and Mortality Weekly Report

August 14, 2020

Younger Adults are More Likely to Report Symptoms of Anxiety and/or Depressive Disorder During the COVID-19 Pandemic

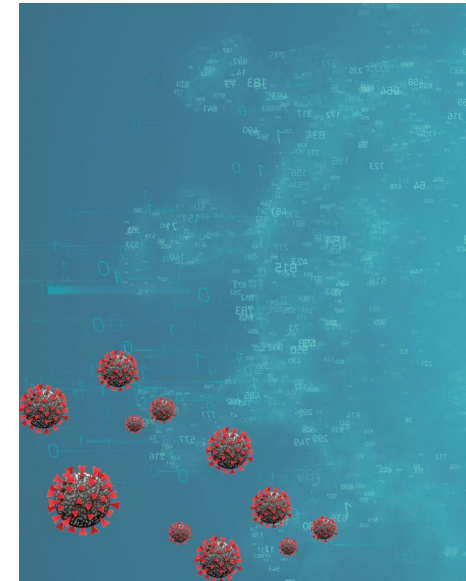


Millennium Health Signals Report™

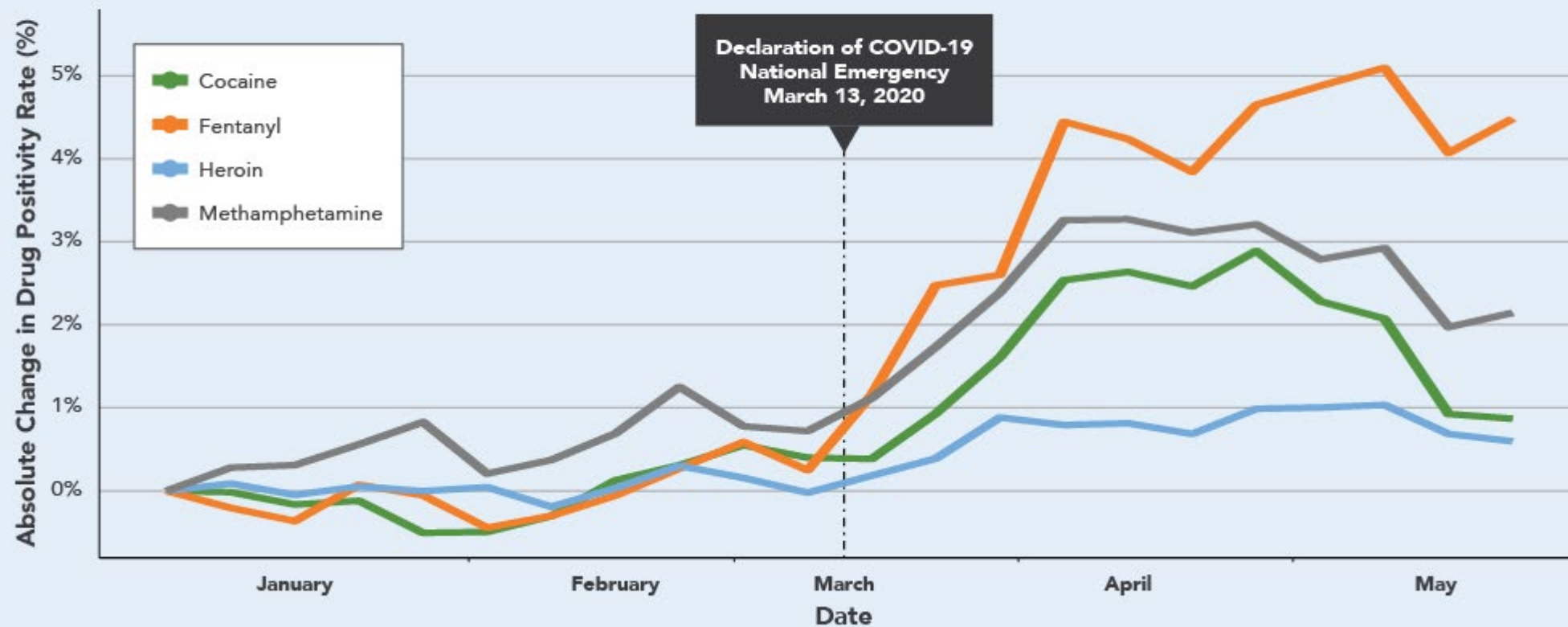
The COVID-19 Connection: Tracking 2020 Trends in Drug Use

Millennium Health is an accredited specialty laboratory with over a decade of experience in drug testing services allowing clinicians to monitor the use of prescription medications and illicit drugs and effectiveness of treatment plans. Processing over a million specimens each year allows us to provide real-time analytics regarding emerging drug use trends.

Published February 2021



Total Study Population Change in Unadjusted Positivity Rate for Cocaine, Fentanyl, Heroin and Methamphetamine



U.S. Census Division	Fentanyl	Methamphetamine	Heroin	Cocaine
East North Central	75% [61 - 89]*	33% [21 - 46]*	18% [-3 - 43]	12% [3 - 23]*
East South Central	34% [19 - 51]*	12% [1 - 24]	1% [-22 - 32]	-11% [-26 - 7]
Mid Atlantic	117% [52 - 209]*	59% [10 - 132]*	25% [-41 - 164]	28% [-3 - 68]
Mountain	125% [93 - 161]*	39% [26 - 53]*	36% [10 - 66]*	1% [-17 - 23]
New England	82% [29 - 157]*	119% [35 - 258]*	20% [-64 - 301]	24% [-15 - 81]
Pacific	180% [129 - 243]*	-2% [-10 - 6]	16% [0 - 34]	-9% [-27 - 14]
South Atlantic	26% [7 - 49]*	18% [0 - 39]	-37% [-57 - -9]*	-18% [-29 - -5]*
West North Central	58% [24 - 101]*	-3% [-15 - 11]	-7% [-39 - 43]	-28% [-48 - -1]
West South Central	57% [8 - 128]*	19% [-1 - 42]	31% [-25 - 129]	-6% [-29 - 24]
U.S. Total	78% [70 - 87]*	29% [23 - 35]*	9% [-2 - 21]	-2% [-7 - 3]

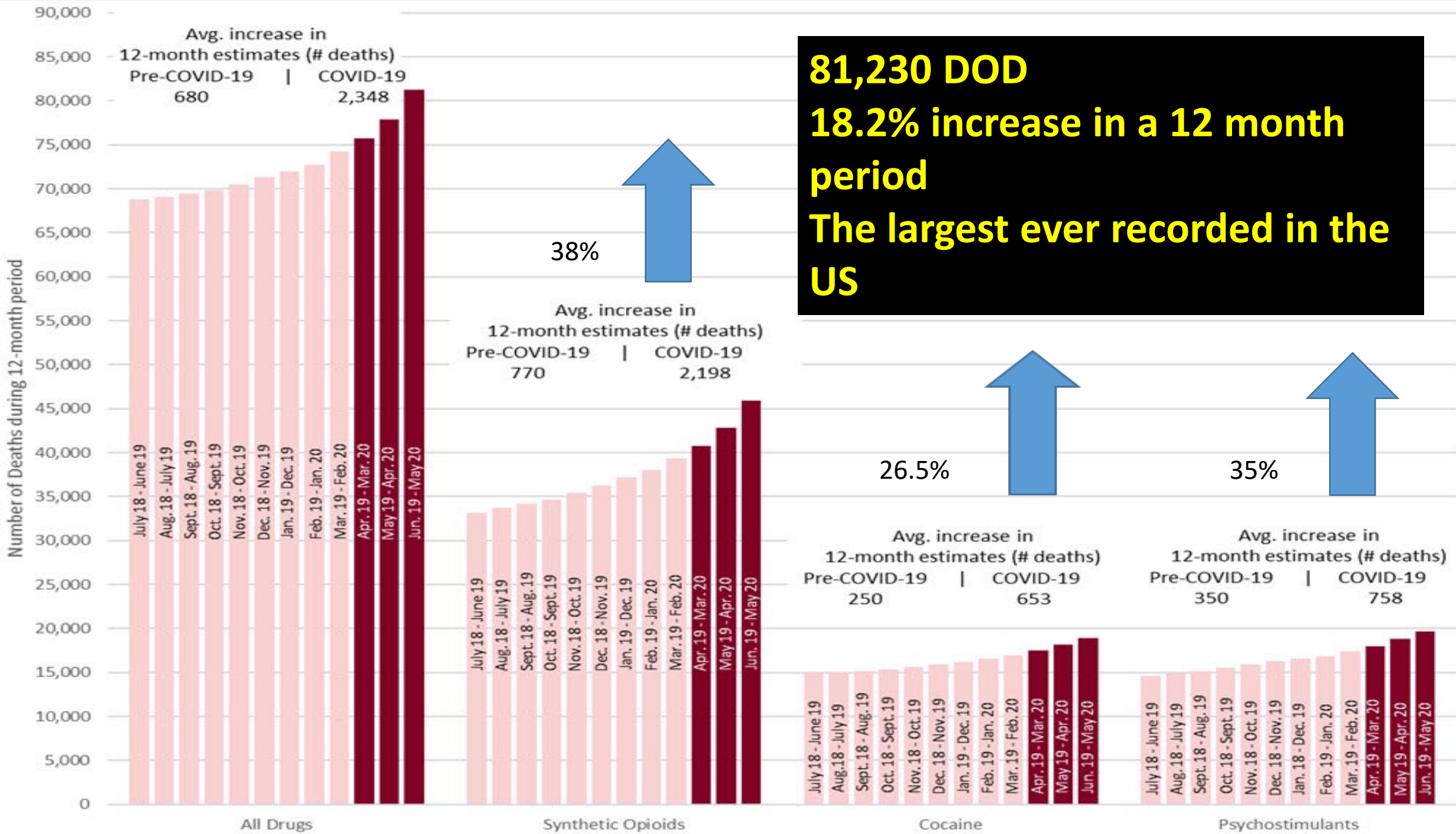
Increase in Fatal Drug Overdoses Across the United States Driven by Synthetic Opioids Before and During the COVID-19 Pandemic

Distributed via the CDC Health Alert Network
December 17, 2020, 8:00 AM ET

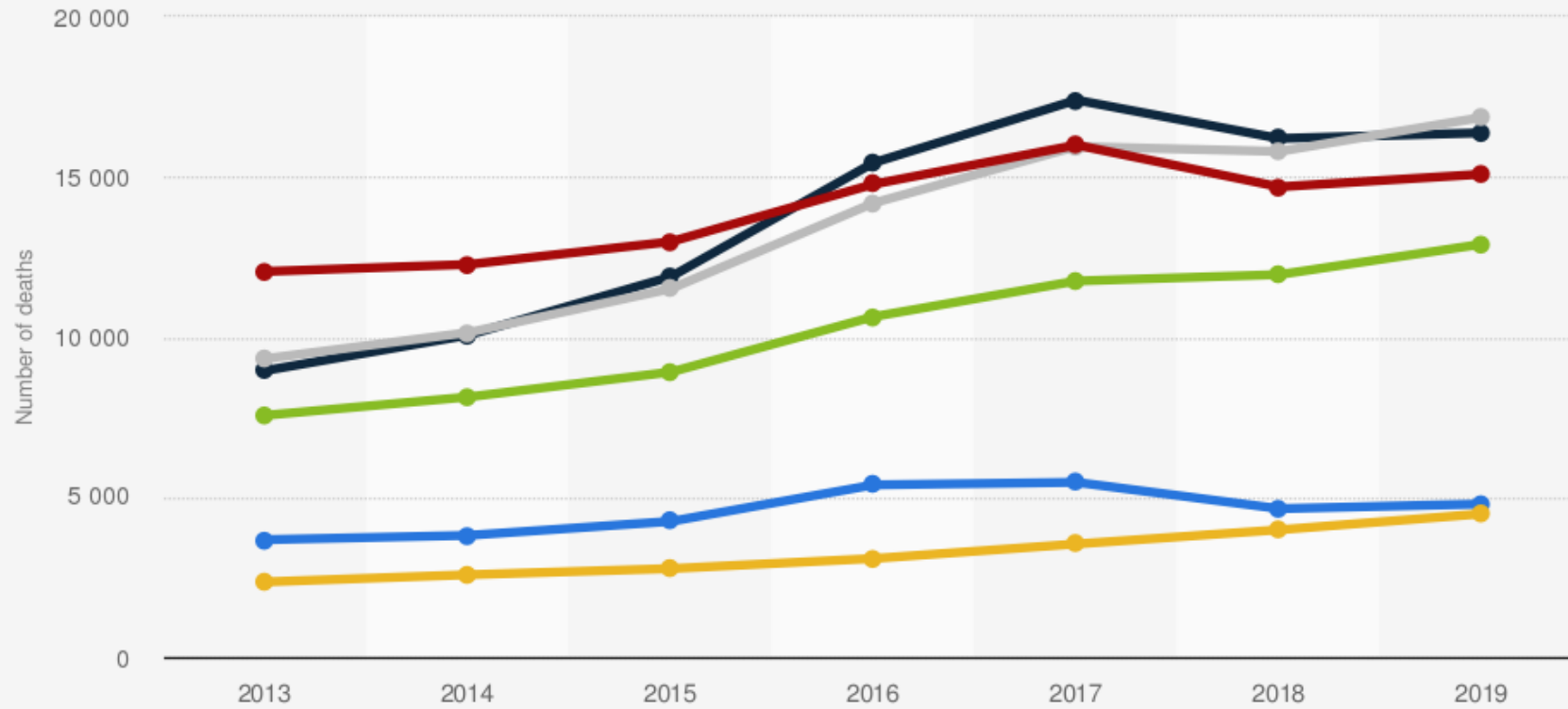


<https://emergency.cdc.gov/han/2020/han00438.asp>





Number of drug overdose deaths in the U.S. from 2013 to 2019, by age



Age group

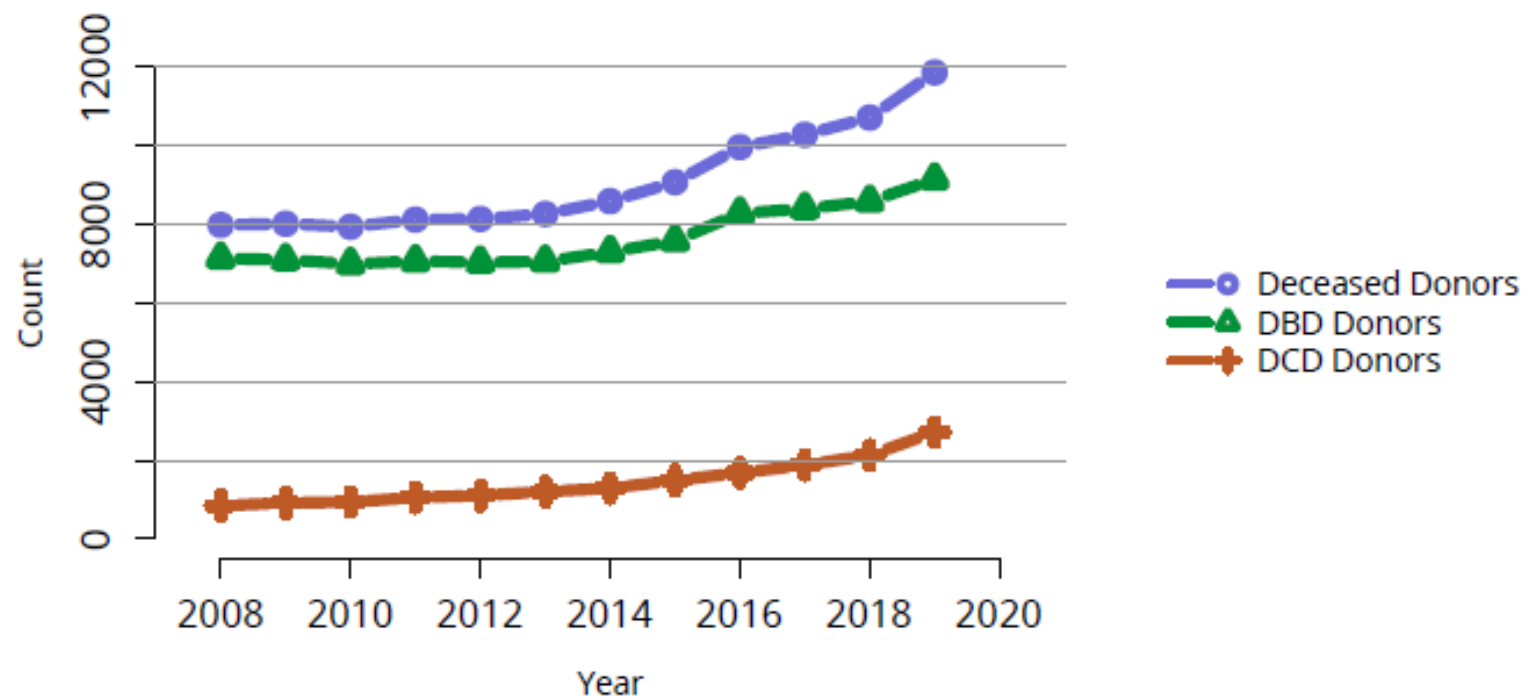
- 15 to 24 years
- 25 to 34 years
- 35 to 44 years
- 45 to 54 years
- 55 to 64 years
- 65 years and older

Sources
CDC; NCHS
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Additional Information:
United States; CDC; NCHS

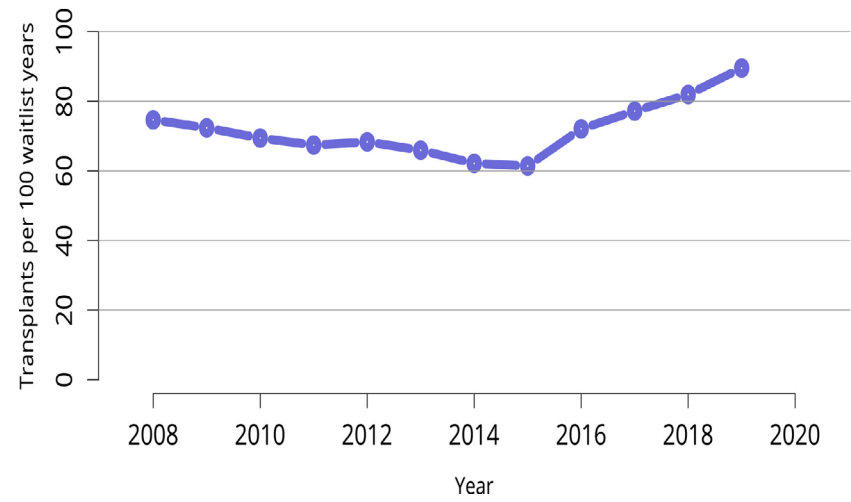
What has been happening in the transplant world?

OPTN/SRTR 2019 Annual Data Report: Deceased Organ Donors



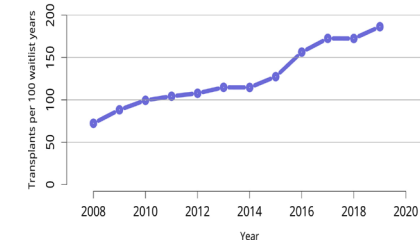
Heart Transplants

OPTN/SRTR 2019 Annual Data Report: Heart



Lung Transplants

OPTN/SRTR 2019 Annual Data Report: Lung

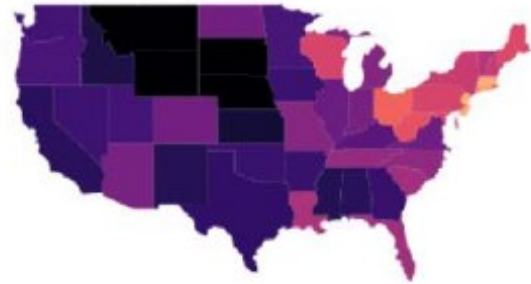


American Journal of Transplantation, Volume: 21, Issue: S2, Pages: 441-520, First published: 17 February 2021, DOI: (10.1111/ajt.16492)

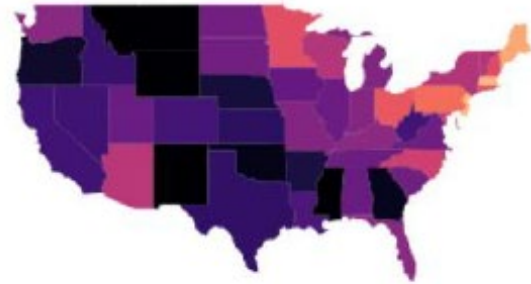
As of 9/09/2021 based on UNOS Website

- 2020: 10th Consecutive record-breaking year in number organs transplanted.
- 2021: On pace to top 40,000 transplants for the first time.

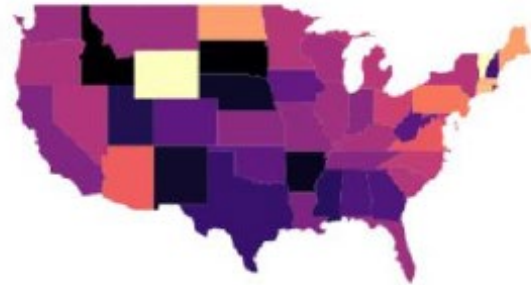
2018



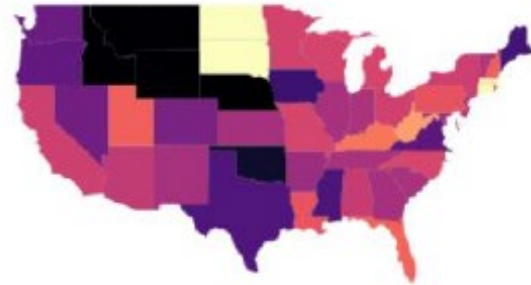
2019



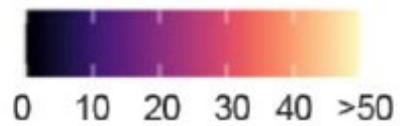
2020



2021



Percent of Donors with Drug Overdose as Mechanism of Death



Summary

- The Opioid Epidemic has continued unabated with no real positive solution OR meaningful efforts to address it.
- The Mental Health Toll of COVID has been huge and we will continue to see ramifications of this burden on the population for years to come
- An unintended consequence of this has been record number of organ transplants being performed.
- Drug overdose deaths will likely continue to have the most dramatic impact on the increase transplantation numbers more so than any legislative efforts in organ donation awareness.