



# Trends and Disparities in Access to Buprenorphine Treatment Following an Opioid-Related Emergency Department Visit Among an Insured Cohort, 2014-2020

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# Thank you to the EMBED Team and Co-Authors

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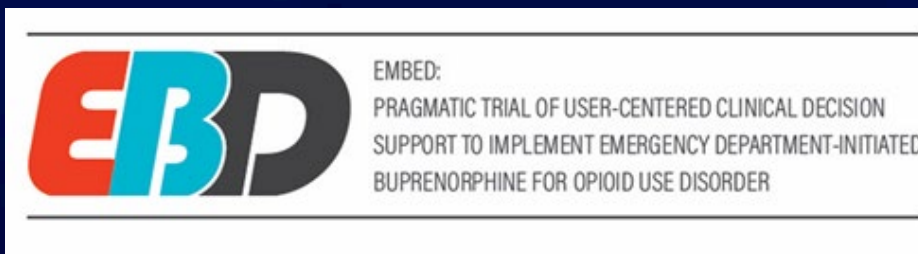
# Disclosures

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Research Letter | Substance Use and Addiction

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# Background

**The New York Times**

## ***Overdose Deaths Reached Record High as the Pandemic Spread***

More than 100,000 Americans died from drug overdoses in the yearlong period ending in April, government researchers said.



## Racial Disparities in Opioid Overdose Deaths in Massachusetts

JAMA Network **Open**

Che-Yi Liao, MSc<sup>1</sup>; Gian-Gabriel P. Garcia, PhD<sup>1</sup>; Catherine DiGennaro, BA<sup>2</sup>

## Racial/Ethnic Disparities in Unintentional Fatal and Nonfatal Emergency Medical Services-Attended Opioid Overdoses During the COVID-19 Pandemic in Philadelphia

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Utsha G. Khatri, MD<sup>1,2</sup>; Lia N. Pizzicato, MPH<sup>3</sup>; Kendra Viner, PhD, MPH<sup>3</sup>; et al

Annals of Emergency Medicine

## Emergency Department Visits for Nonfatal Opioid Overdose During the COVID-19 Pandemic Across Six US Health Care Systems

William E. Soares III, MD, MS   • Edward R. Melnick, MD, MHS • Bidisha Nath, MBBS, MPH • ...

Anthony Napoli, MD, MHL • Jason A. Hoppe, DO • Molly M. Jeffery, PhD • Show all authors

## Nonfatal Opioid Overdoses at an Urban Emergency Department During the COVID-19 Pandemic

Taylor A. Ochalek, PhD<sup>1</sup>; Kirk L. Cumpston, DO<sup>2</sup>; Brandon K. Wills, DO<sup>2</sup>; et al

JAMA

## Disparities by Sex and Race and Ethnicity in Death Rates Due to Opioid Overdose Among Adults 55 Years or Older, 1999 to 2019

Maryann Mason, PhD<sup>1,2</sup>; Rebekah Soliman<sup>3</sup>; Howard S. Kim, MD, MS<sup>1,4,5</sup>; et al

JAMA Psychiatry

## Association of Disability With Mortality From Opioid Overdose Among US Medicare Adults

Yong-Fang Kuo, PhD<sup>1,2,3</sup>; Mukaila A. Raji, MD<sup>1,2</sup>; James S. Goodwin, MD<sup>1,2,3</sup>

JAMA Network **Open**

## Disparities in Opioid Overdose Death Trends by Race/Ethnicity, 2018–2019, From the HEALing Communities Study

Marc R. Larochelle MD, MPH, Svetla Slavova PhD, Elisabeth D. Root PhD, Daniel J. Feaster PhD, Patrick J. Ward PhD, MPH, Sabrina C. Selk ScD, Charles Knott... (show all authors)

AJPH  
A PUBLICATION OF THE  
AMERICAN PUBLIC HEALTH ASSOCIATION

## Evaluation of Increases in Drug Overdose Mortality Rates in the US by Race and Ethnicity Before and During the COVID-19 Pandemic

Joseph R. Friedman, MPH<sup>1,2</sup>; Helena Hansen, MD, PhD<sup>2</sup> JAMA Psychiatry

# Background

Buprenorphine is a first-line medication for opioid use disorder (MOUD)

- Prevents cravings and withdrawals
- Approved by FDA in 2002

ED-Initiated Buprenorphine:

- Increased treatment engagement
- Decreased illicit opioid use

April 28, 2015

**Emergency Department-Initiated  
Buprenorphine/Naloxone Treatment  
for Opioid Dependence**  
A Randomized Clinical Trial **JAMA**

Gail D'Onofrio, MD, MS<sup>1</sup>; Patrick G. O'Connor, MD, MPH<sup>2</sup>; Michael V. Pantalon, PhD<sup>1</sup>; et al

# Background

“This is part of emergency medicine now!”



1

## The opioid crisis

- Overdose deaths soared to 93K in 2020 (70K opioid)
- >Opioid overdose disparities are increasing

2

## Medication treatment gaps

- Less than 1 in 5 receive medication treatment
- Disparities in access to MOUD

3

## ED as critical access point

- **5% mortality 1 year after overdose**
- ED OUD visits still rising

4

## BUP-initiation in the ED

- Safe & doubles engagement in treatment
- Multiple barriers to adoption

# Purpose

*Describe recent national trends in access to timely buprenorphine treatment and disparities in access following an opioid-related ED visit.*



# Method

**Design:** Cross-sectional analysis

**Population:** people with an opioid-related ED visit between 2014-2020 who had commercial or Medicare Advantage health insurance

**Data source:** OptumLabs® Data Warehouse (OLDW), longitudinal, real-world de-identified administrative claims and enrollment data

**Cohort Identification:** ED visits with a diagnosis code for opioid use, abuse, dependence and poisoning

**Outcome:** New buprenorphine fills within seven days following an opioid-related ED visit

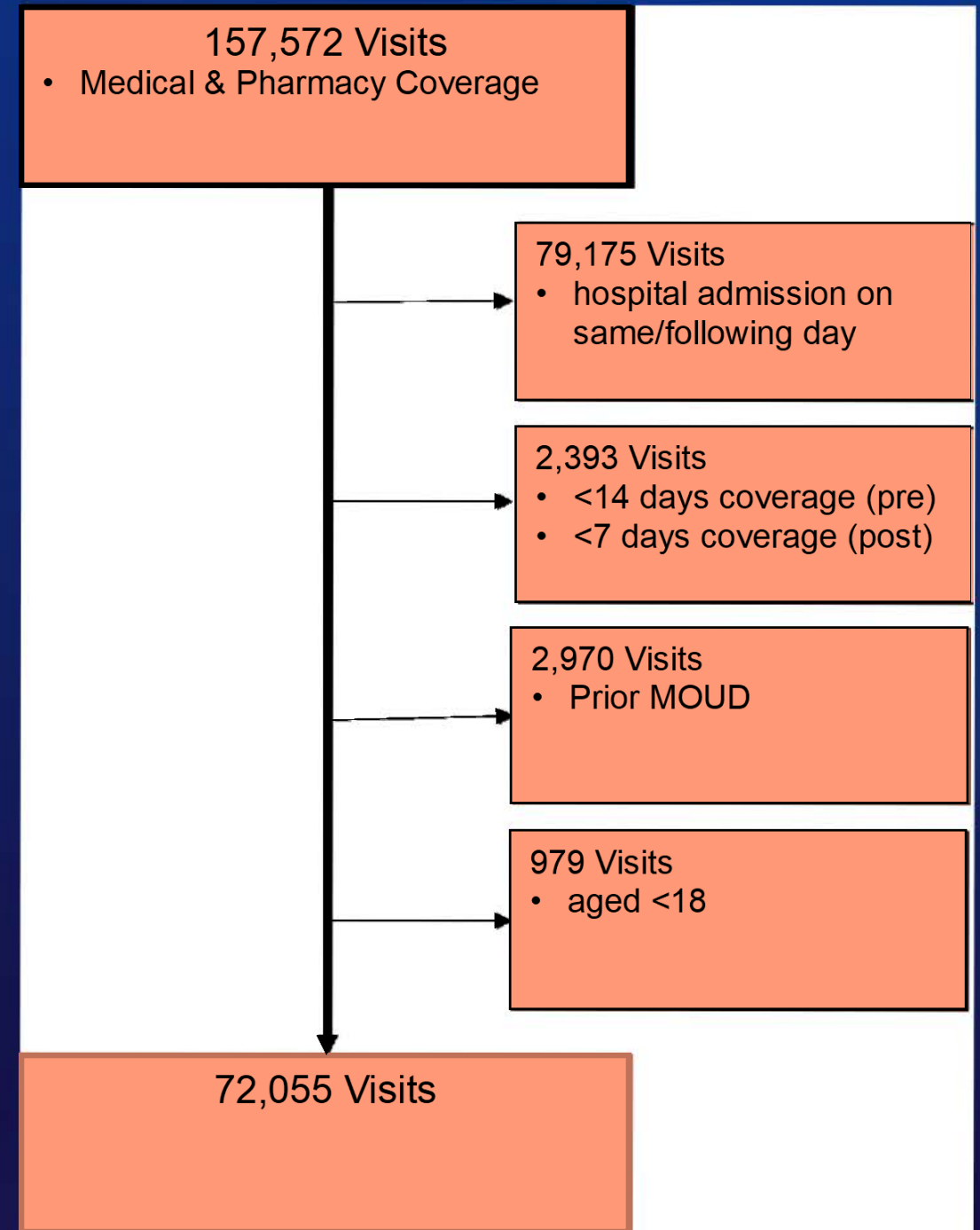
## Timeline

Pre-Period	Opioid-Related ED Visit	Follow-Up
Days -14 to -1	Day 0	Days 0-7

# Method

## **72,055 Eligible Opioid-Related ED Visits**

- ED=Emergency Department
- CE=Continuous Enrollment
- MOUD=Medication for Opioid Use Disorder



# Method

## Analysis:

- Buprenorphine fill rates plotted for 2014-2015, 2016-2017, 2018-2019, and 2020
  - Rates reported per 10,000 opioid-related ED visits
  - Rates standardized for each subpopulation
- Percent changes calculated between 2014-2015 and 2018-2019
  - Poisson regression, clustering at the patient-level
  - 2020 as separate period due to Covid-19-related disruptions

## Study Periods

Period 1	Period 2	Period 3	Period 4
2014-2015	2016-2017	2018-2019	2020

# Results

Table. Opioid-Related ED Visits by Receipt of ED Buprenorphine Fills and Visit Characteristics, 2014-2020

	Buprenorphine N=1,813 (2.5)	No Buprenorphine N=70,242 (97.5)	P Value
<b>Visit Characteristics (n, %)</b>			
<b>Sex</b>			< 0.001
Male	1,104 (3.0)	35,259 (97.0)	
Female	709 (2.0)	34,983 (98.0)	
<b>Age</b>			< 0.001
18-25	307 (3.1)	9,568 (96.9)	
26-40	547 (3.9)	13,376 (96.1)	
≥41	959 (2.0)	47,298 (98.0)	
<b>Race</b>			< 0.001
Non-Hispanic White	1,330 (2.6)	49,338 (97.4)	
Non-Hispanic Black	208 (2.0)	10,406 (98.0)	
Hispanic	138 (2.1)	6,390 (97.9)	

## Take home points

- From 2014 to 2020, buprenorphine fills were lower for female (vs male), people aged at least 41 years (vs aged 18-25 years and 26-40 years) and Black and Hispanic (vs White) populations.



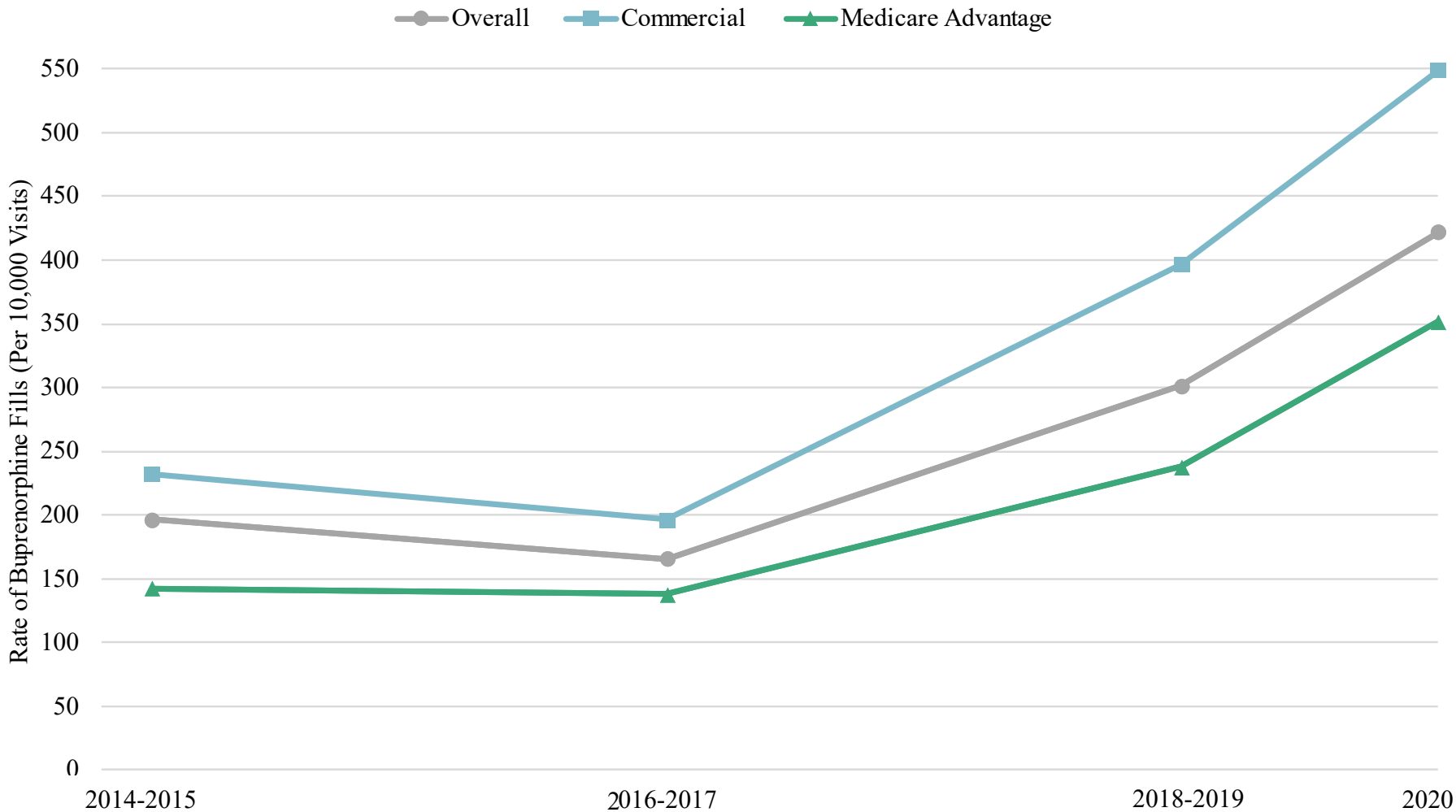
# Results

## Commercial and MA: Percent Change

Overall: 53.3% (31.0%, 79.4%)

Commercial: 48.6% (22.1%, 81.0%)

Medicare Advantage 67.7% (29.3%, 117.7%)



## Take home points

From 2014-2015 to 2018-2019, buprenorphine **fills** per 10,000 opioid-related ED visits **increased for Commercial and Medicare Advantage:**

➤ Buprenorphine **fills were lower for Medicare Advantage (vs Commercial)**

# Results

## Commercial and MA: Percent Change

**Overall:** 53.3% (31.0%, 79.4%)

### Sex

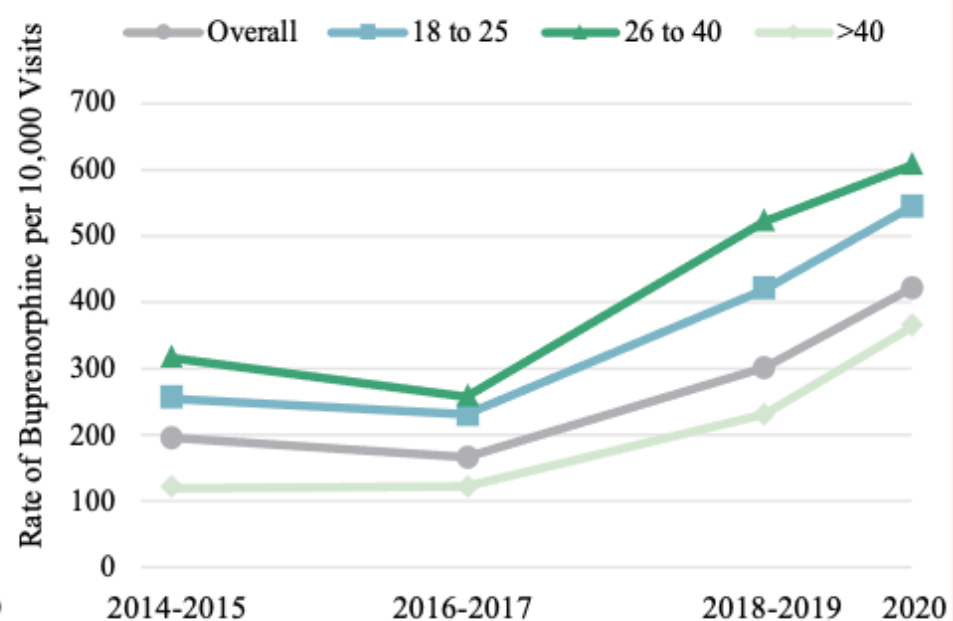
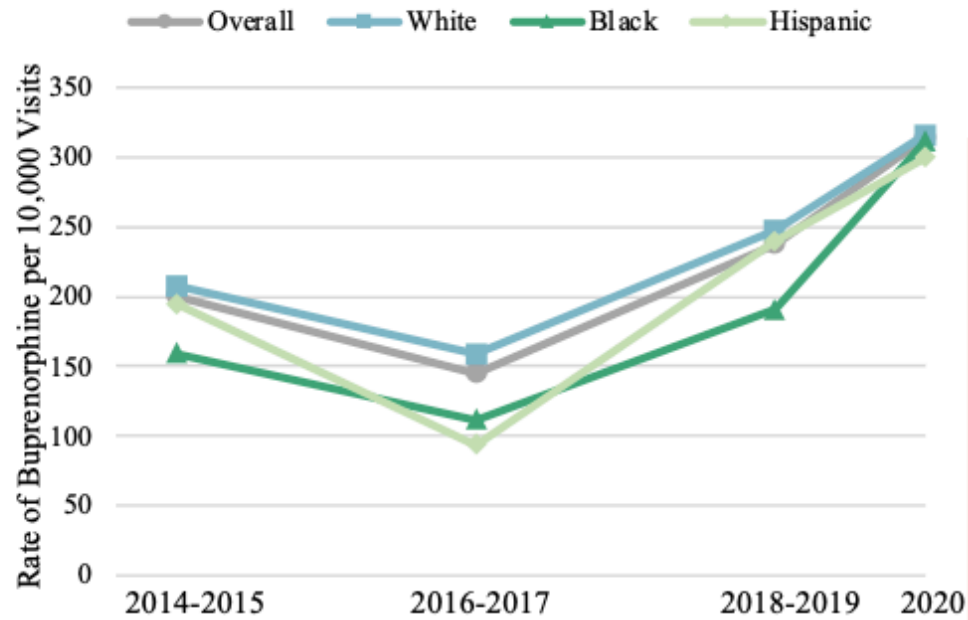
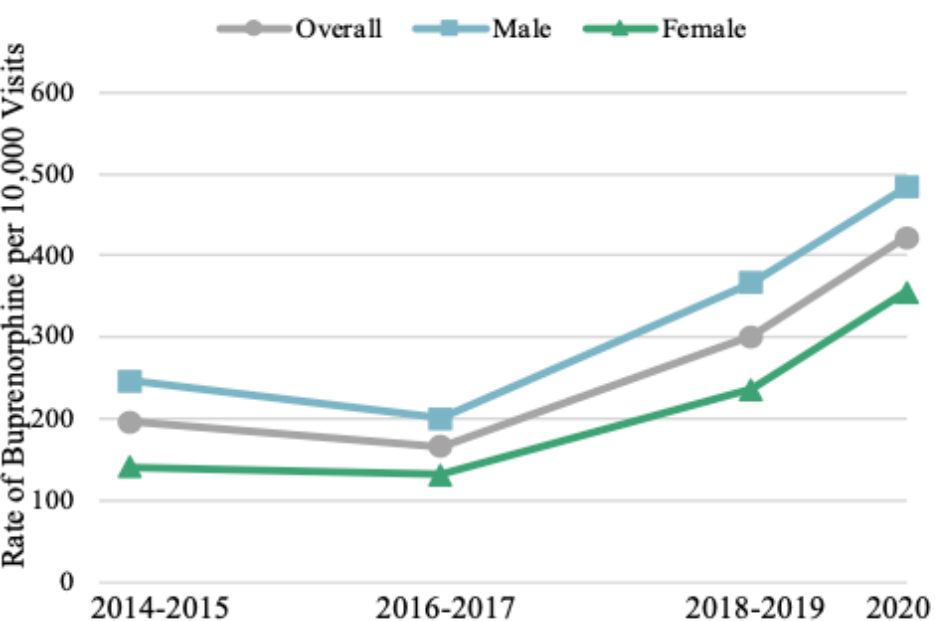
- Male: 48.6% (22.1%, 81.0%)
- Female: 67.7% (29.3%, 117.7%)

### Age

- 18 to 25: 64.0% (19.0%, 126.1%)
- 26 to 40: 64.6% (25.7%, 115.5%)
- 41+: 90.3% (47.2%, 146.1%)

### Race/Ethnicity

- White: 60.5% (34.1%, 92.2%)
- Black: 42.4% (-11.3%, 128.6%)
- Hispanic: 44.0% (-18.5%, 154.6%)



## Take home points

From 2014-2015 to 2018-2019, buprenorphine **fills** per 10,000 opioid-related ED visits:

➤ **increased from 197 to 301 (53.3% [95% CI, 31.0%-79.4%])**

➤ **lower for female, age 41+, and non-Hispanic Black and Hispanic populations**

# Results

## Commercial and MA: Percent Change

### SUD Diagnoses

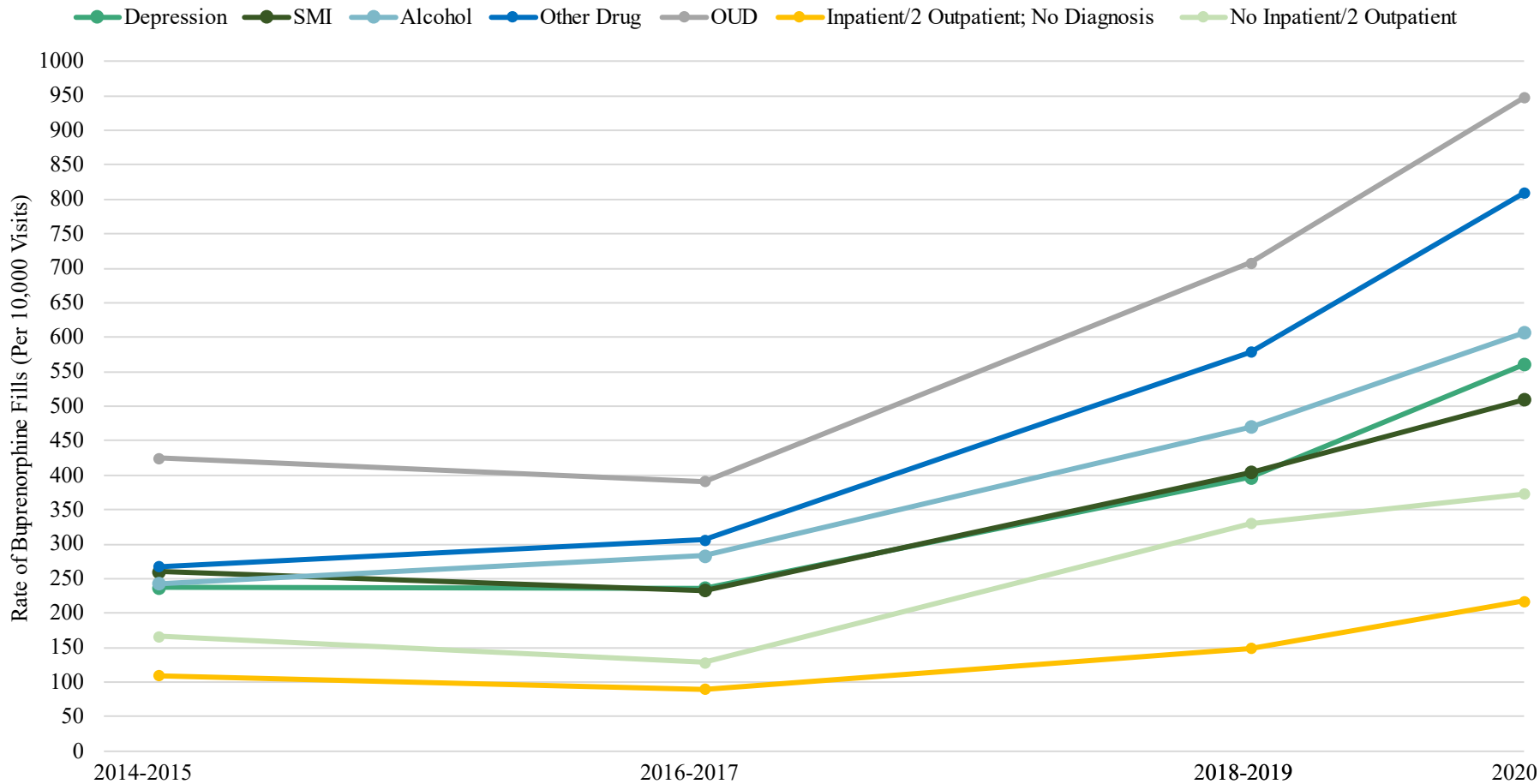
- OUD: 66.5% (32.8%, 108.8%)
- Alcohol: 67.7% (29.3%, 117.7%)
- Other Drug: 116.6% (56.8%, 199.1%)

### MH Diagnoses

- Depression: 67.5% (22.8%, 128.6%)
- SMI: 55.1% (18.1%, 103.8%)

### Inpatient/2 Outpatient (no SUD/MH):

- 36.7% (-2.1%, 90.9%)
- No Inpatient/2 Outpatient:**  
98.4% (37.0%, 187.2%)



## Take home points

- Compared to OUD, buprenorphine fills were lower for alcohol, other drug, SMI, and depression diagnoses

# Discussion

- **Timely buprenorphine fills following an opioid-related ED visit increased but exhibit disparities**
- **People with socioeconomic advantages—male, younger, non-Hispanic White, commercially insured, no serious mental illness or other drug-related diagnosis—were more likely to receive this life-saving treatment**



# Discussion

➤ *Policy*: “X-the X Waiver”

➤ *Clinical Practice*:

- User-centered decision tools (eg, EMergency Department-Initiated BuprenorphinE for OUD (EMBED))

➤ *Multifaceted approach*: Policy and practice interventions with focus on widespread adoption and addressing key disparities

# “X the X-Waiver”

Annals of Emergency Medicine  
An International Journal

## Improve Access to Care for Opioid Use Disorder: A Call to Eliminate the X-Waiver Requirement Now

Gail D’Onofrio, MD, MS   • Edward R. Melnick, MD, MHS • Kathryn F. Hawk, MD, MHS

Open Access • Published: May 07, 2021 • DOI: <https://doi.org/10.1016/j.annemergmed.2021.03.023> •

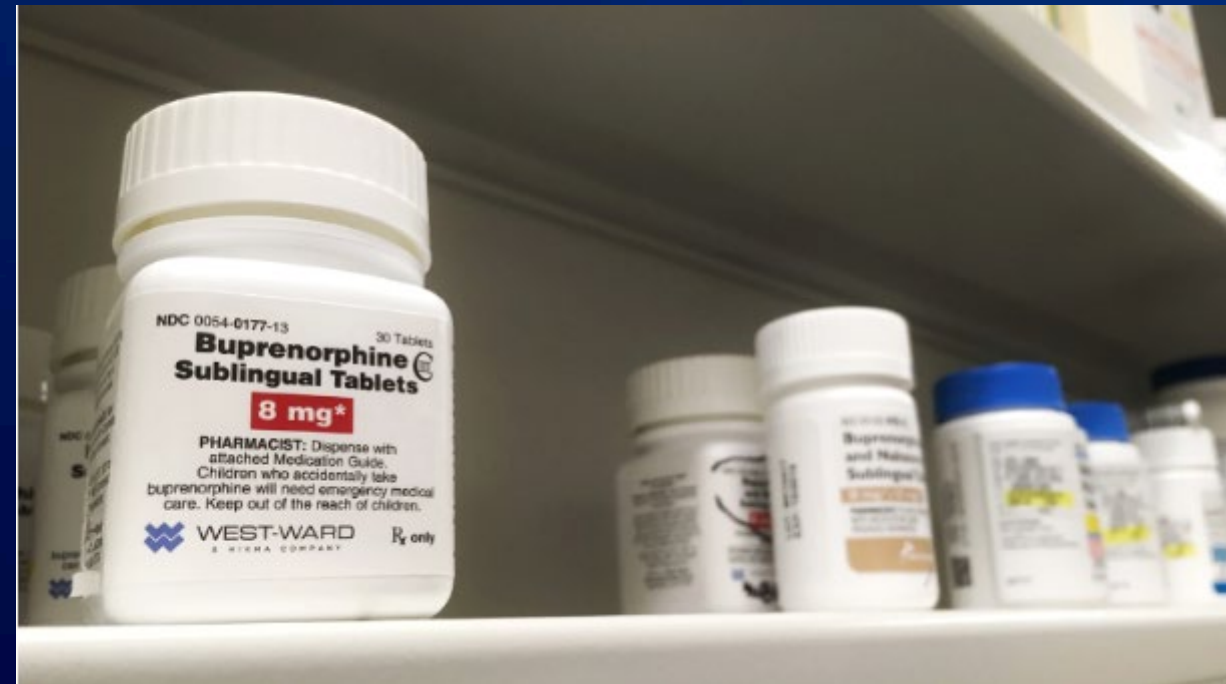
Removing The X-Waiver Is One Small Step Toward Increasing Treatment Of Opioid Use Disorder, But Great Leaps Are Needed

[Erin J. Stringfellow](#), [Keith Humphreys](#), [Mohammad S. Jalali](#)

HealthAffairs

APRIL 22, 2021

10.1377/forefront.20210419.311749



# Discussion

- *Policy*: “X-the X Waiver”
- *Clinical Practice*:
  - User-centered decision tools (eg, EMergency Department-Initiated BuprenorphinE for OUD (EMBED))
- “*Multifaceted approach*: Policy and practice interventions with focus on widespread adoption and addressing key disparities

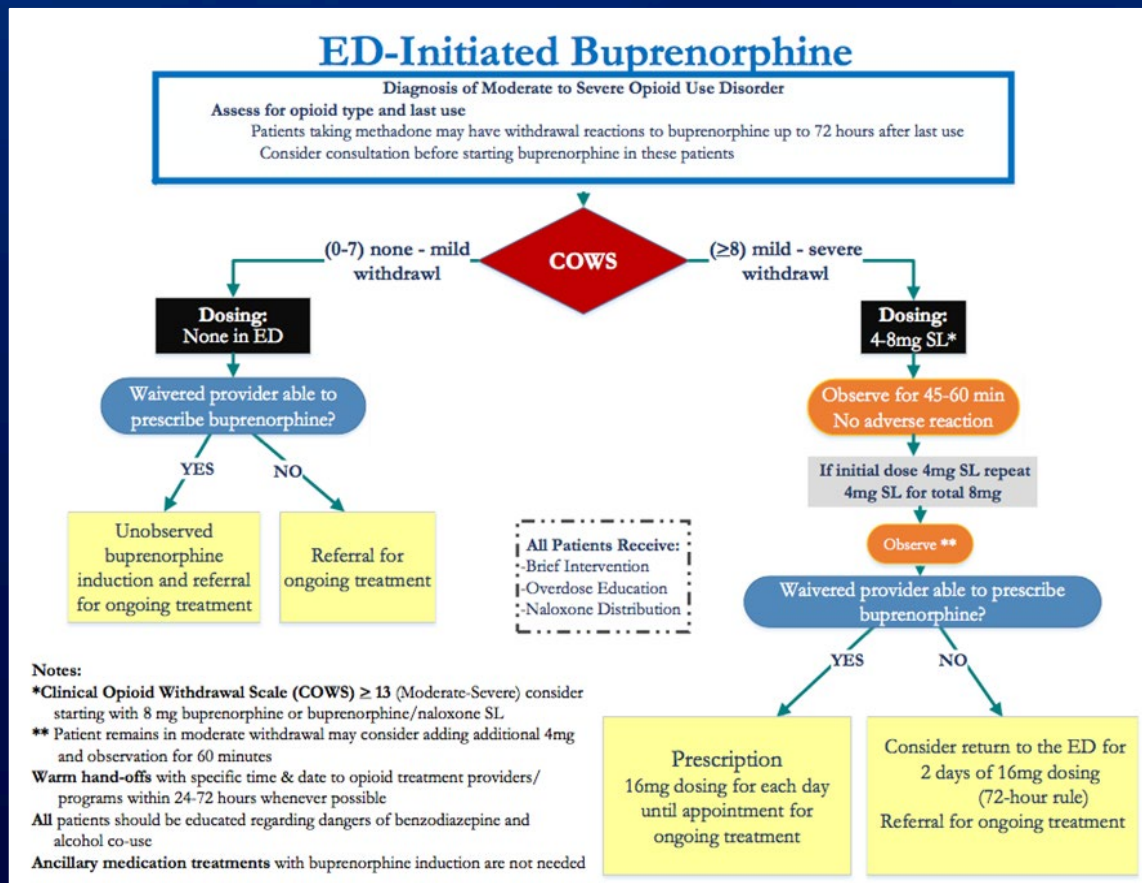
# EMBED: EMergency Department-Initiated Buprenorphine for OUD

User-centered design to simplify the process...



From a complicated, unfamiliar practice...

...to a simple, automated application






# EMBED: EMergency Department-Initiated BuprenorphinE for OUD

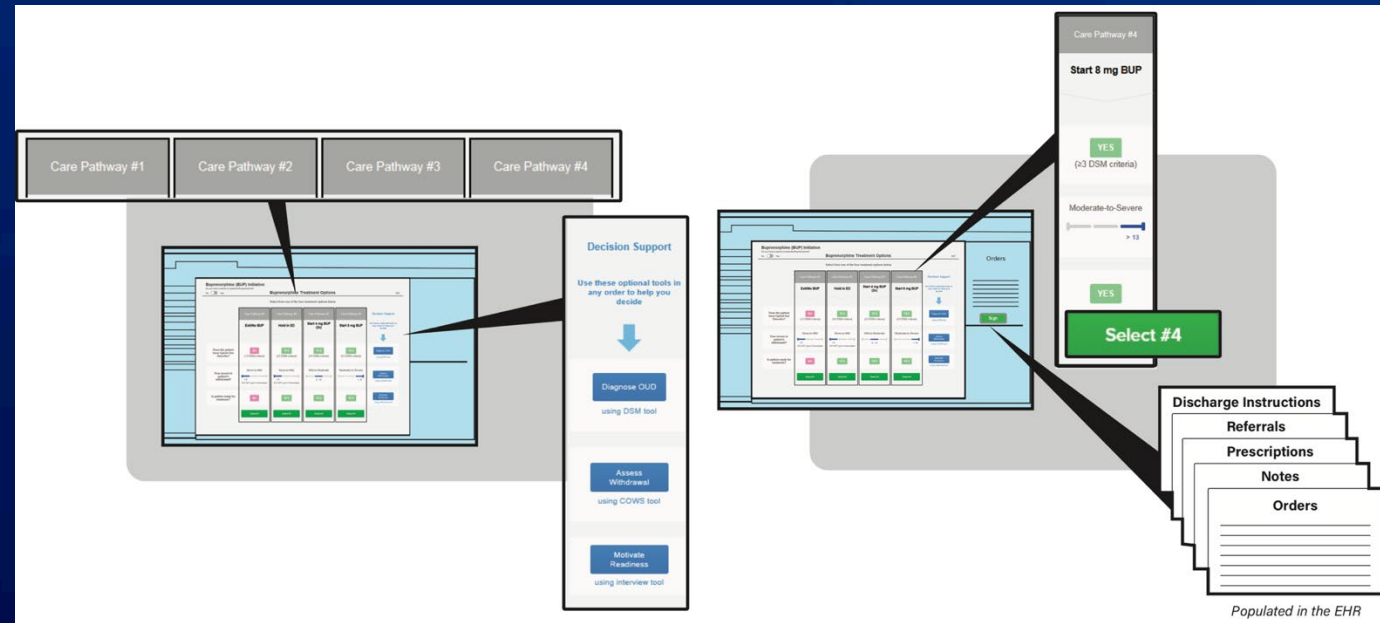
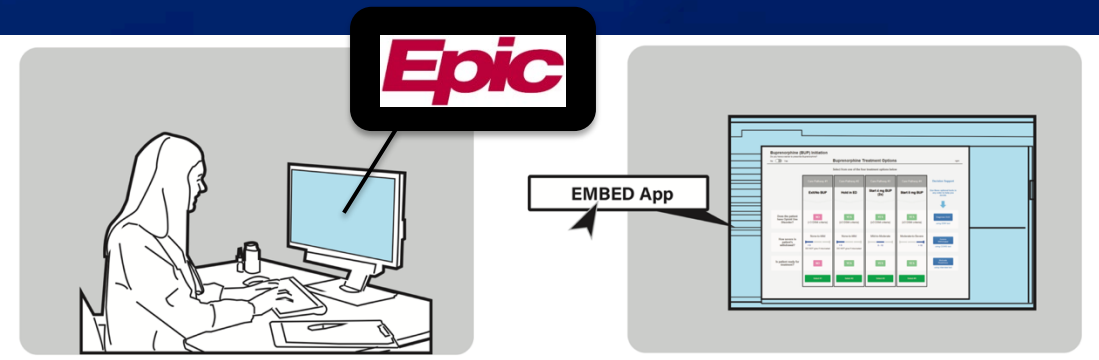
EMBED App: Automated workflow, never leaving the EHR

1) In patient's chart

2) Click the EMBED button

3) 1-click to launch

4) Automates EHR tasks



1. Diagnose OUD
2. Assess withdrawal severity
3. Motivate readiness





1. Orders
2. Notes
3. Prescriptions
4. Referral
5. Discharge instructions



# Discussion

- *Policy*: “X-the X Waiver”
- *Clinical Practice*:
  - User-centered decision tools (e.g., EMergency Department-Initiated BuprenorphinE for OUD (EMBED))
- “*Multifaceted approach*”: Policy and practice interventions with focus on widespread adoption and addressing key disparities

# National Institute on Minority Health and Health Disparities Framework

		Levels of Influence*			
		Individual	Interpersonal	Community	Societal
Domains of Influence <i>(Over the Lifecourse)</i>	Biological	Biological Vulnerability and Mechanisms	Caregiver–Child Interaction Family Microbiome	Community Illness Exposure Herd Immunity	Sanitation Immunization Pathogen Exposure
	Behavioral	Health Behaviors Coping Strategies	Family Functioning School/Work Functioning	Community Functioning	Policies and Laws
	Physical/Built Environment	Personal Environment	Household Environment School/Work Environment	Community Environment Community Resources	Societal Structure
	Sociocultural Environment	Sociodemographics Limited English Cultural Identity Response to Discrimination	Social Networks Family/Peer Norms Interpersonal Discrimination	Community Norms Local Structural Discrimination	Social Norms Societal Structural Discrimination
	Health Care System	Insurance Coverage Health Literacy Treatment Preferences	Patient–Clinician Relationship Medical Decision-Making	Availability of Services Safety Net Services	Quality of Care Health Care Policies
Health Outcomes		 Individual Health	 Family/ Organizational Health	 Community Health	 Population Health

# Limitations

- Inability to observe prescriptions and health services not submitted to the insurance plan (e.g., from methadone clinics)
- Describes associations rather than causation
- Results may not be generalizable beyond the commercial and Medicare Advantage population.



# Conclusion

*Use of buprenorphine in ED settings holds promise for addressing the treatment gap for patients with OUD.*

*Clinical and policy remedies are needed to increase buprenorphine treatment for OUD in and outside of EDs with a focus on disparities.*