

FROM PAIN MANAGEMENT TO STREET CRIME: A COUNTY-LEVEL ANALYSIS OF OPIOID DISPENSING AND DRUG-RELATED ARREST RATES

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BACKGROUND

- Opioids – class of drugs that includes legal substances (e.g., oxycodone, hydrocodone) and illicit substances (e.g., heroin and fentanyl)
- Strong increases in prescribing throughout 1990s and early 2000s
- In 2021, 75% of fatal overdoses were opioid-related (Hedegaard et al., 2021)
 - The number of opioid overdoses was ten times the number in 1999 (National Center for Health Statistics, 2022)



BACKGROUND

- County-level opioid dispensing rates associated with
 - Higher rates of harmful opioid use
 - Drug dependence
 - Frequency of use
- Prior research places strong emphasis on overdose mortality
- Drug-related arrest data can speak to
 - Illicit drug market activity
 - Visibility of substance use
 - Interactions between law enforcement and people who use drugs



RESEARCH QUESTIONS

1. Are county-level **opioid dispensing rates** associated with arrest rates for **drug possession**?
2. Are county-level **opioid dispensing rates** associated with arrest rates for **drug sale/manufacturing**?

DATA AND METHODS

- Dependent variables: drug-related arrest rates (Uniform Crime Reporting System, 2021; Kaplan, 2021)
 - Possession and sale/manufacturing of
 - Any drug
 - Heroin/cocaine
 - Synthetic narcotics
- Independent variable: opioid prescription dispensing rates (CDC, 2021)



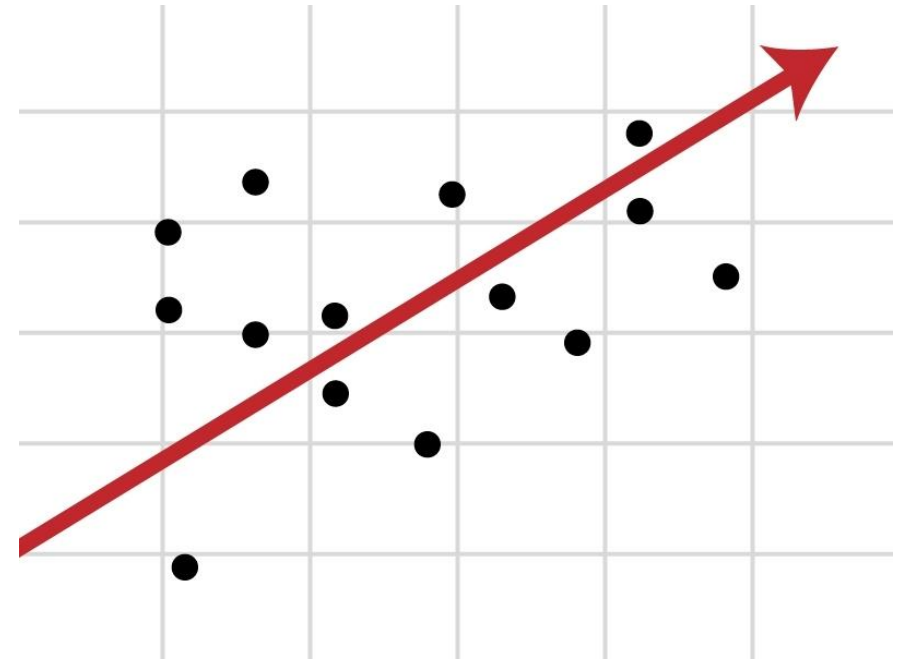
DATA AND METHODS

- Control variables
 - Disadvantage index (median household income, median gross rent, per capita income, poverty rate, less than high school diploma) (ACS, 2021; USDA, 2021)
 - Unemployment (ACS, 2021)
 - Demographics (age, race, sex, veteran, and foreign-born composition) (ACS, 2021)
 - Population density

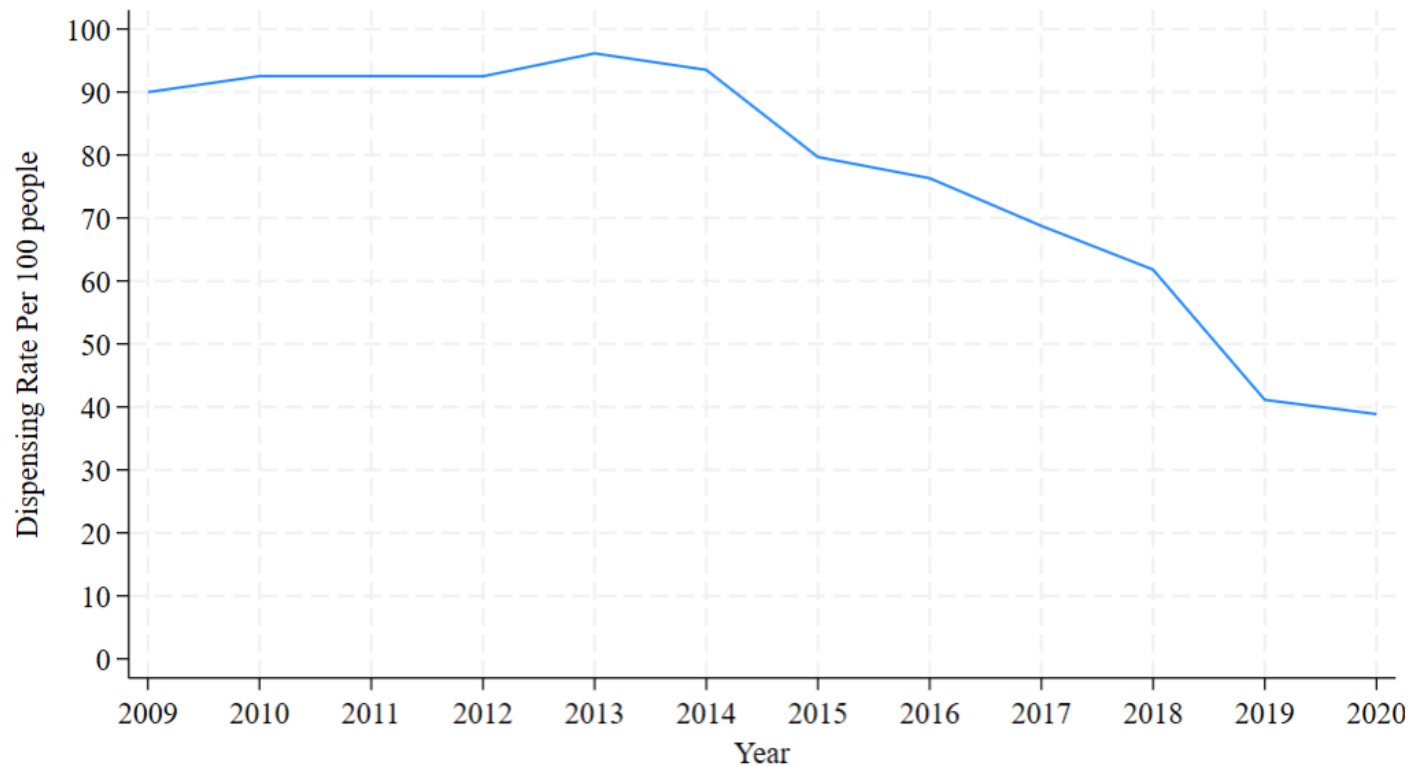


DATA AND METHODS

- **Analytic strategy**
 - Poisson fixed effects regression
- **Sensitivity analyses**
 - Adjusted arrest rates based on number of months reported
 - Negative binomial fixed effects regression
 - One year lagged dispensing rates



RESULTS – MEAN DISPENSING RATES 2009-2020



RESULTS – POSSESSION

	Total Drug Possession	Heroin/Cocaine Possession	Synthetic Narcotic Possession
Opioid Dispensing	0.000 (0.000)	-0.002*** (0.001)	0.004*** (0.001)
Percent Male	2.098* (0.991)	2.558 (1.924)	2.837 (1.840)
Population Density	-0.001** (0.000)	-0.001*** (0.000)	-0.001* (0.001)

RESULTS – SALE/MANUFACTURING

	Total Drug Possession	Heroin/Cocaine Possession	Synthetic Narcotic Possession
Opioid Dispensing Rate	0.000 (0.000)	-0.001 (0.001)	0.003*** (0.001)
Percent Unemployed	0.016* (0.006)	0.012 (0.009)	0.021 (0.013)
Percent Foreign Born	0.101 (1.332)	4.516* (1.754)	-2.103 (2.288)
Percent Veteran	0.101 (1.332)	4.516* (1.754)	-2.103 (2.288)
Population Density	-0.000** (0.000)	-0.000** (0.000)	-0.000+ (0.000)

DISCUSSION

- Significant **positive association** between dispensing and **arrests for possession and sale of synthetic narcotics**
- Significant **negative association** between dispensing and **arrests for possession of heroin/cocaine**
- Connections between licit and illicit markets
- Potential unintended consequences of decreasing prescribing rates



POLICY IMPLICATIONS

- Important to consider diversion of prescription opioids
- Expansion of medication-assisted treatment (MAT)
- Interactions between law enforcement and people who use substances
 - Require police to carry naloxone
 - Offer treatment in place of incarceration
 - Offer MAT in incarceration settings
 - Only 0.8% of correctional institutions in the U.S. offer MAT



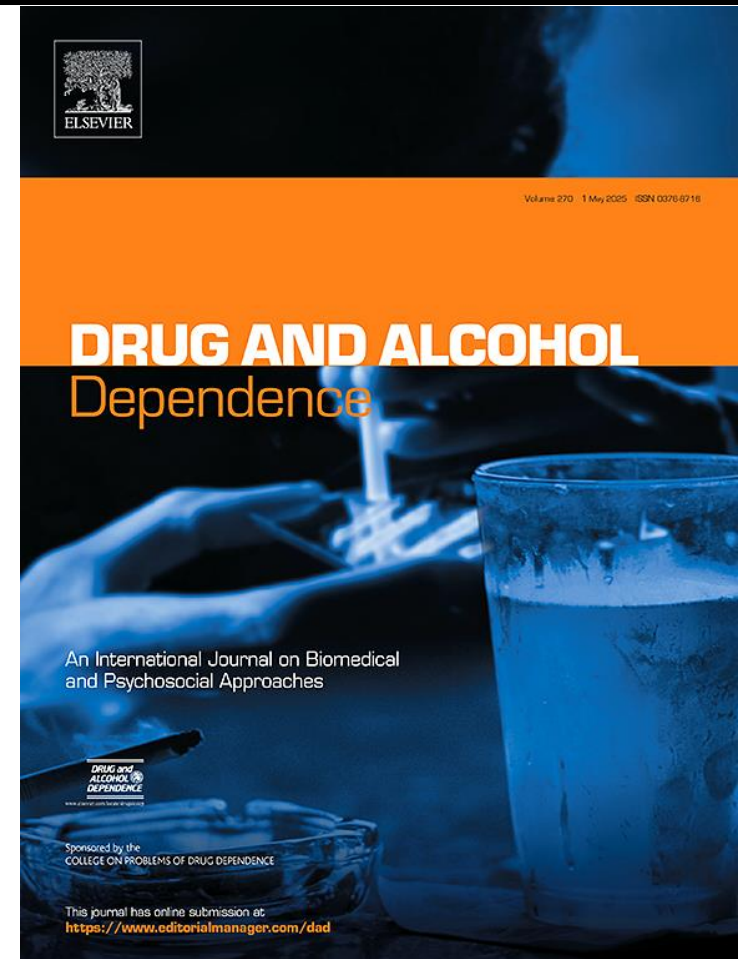
LIMITATIONS

- **Uniform Crime Reporting (UCR) System**
 - UCR is not nationally mandated
 - Heroin and cocaine grouped as one measure
 - Synthetic narcotics is broad category
- **Spuriousness and omitted variable bias**
 - Would be useful to know prevalence of manual labor jobs, prior prescribing trends, presence of pain management clinics



FUTURE DIRECTIONS

- Current paper is under review at *Drug and Alcohol Dependence*
- Supplementary analyses on differences between rural and urban counties
 - In preparation for *Criminology*
- Continued study of connections between opioid-related measures and crime-related measures
 - Pain management clinic laws
 - Prescription drug monitoring programs
 - Drug seizures by police



CONCLUSION

- Arrest data provides important insight into opioids and the criminal justice system
- Important to understand different facets of the opioid crisis
- Consideration of unintended consequences
- Prioritize maximizing care and minimizing harm



THANK YOU!

Reach out to akn5535@psu.edu for more information!

Thank you for being here today and congratulations to
Ryan and Camille! :)