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Supply- and Demand-side factors influencing endemic drug use in America

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Demand versus Supply Drivers

Supply-side drivers

- Increasing availability of powerful drugs

Demand-side drivers

- Increasing demand for deadly substances



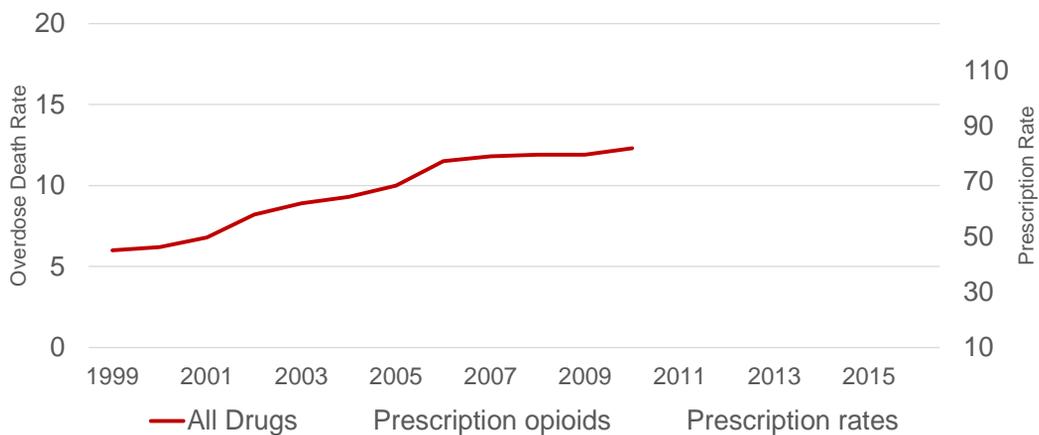
1. Supply-side drivers
2. Demand-side drivers



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US Overdose Death and Prescription Rates 1999-2016

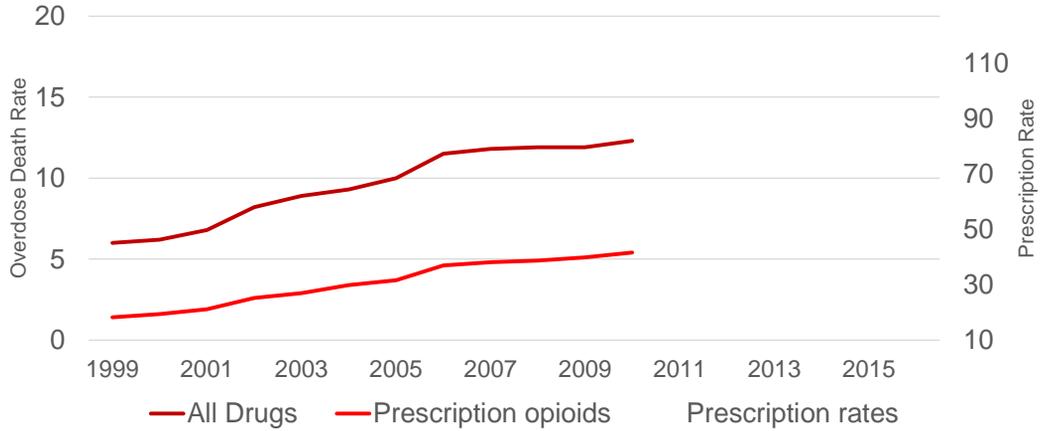


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US Overdose Death and Prescription Rates 1999-2016

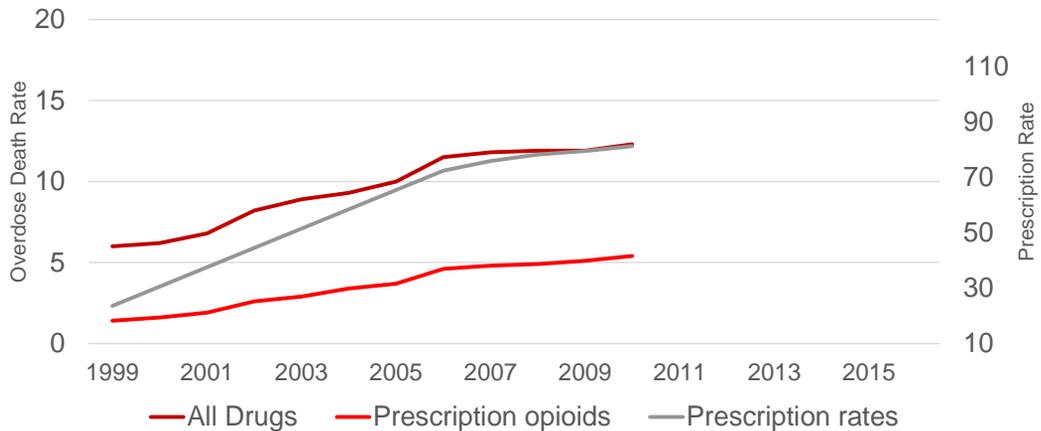


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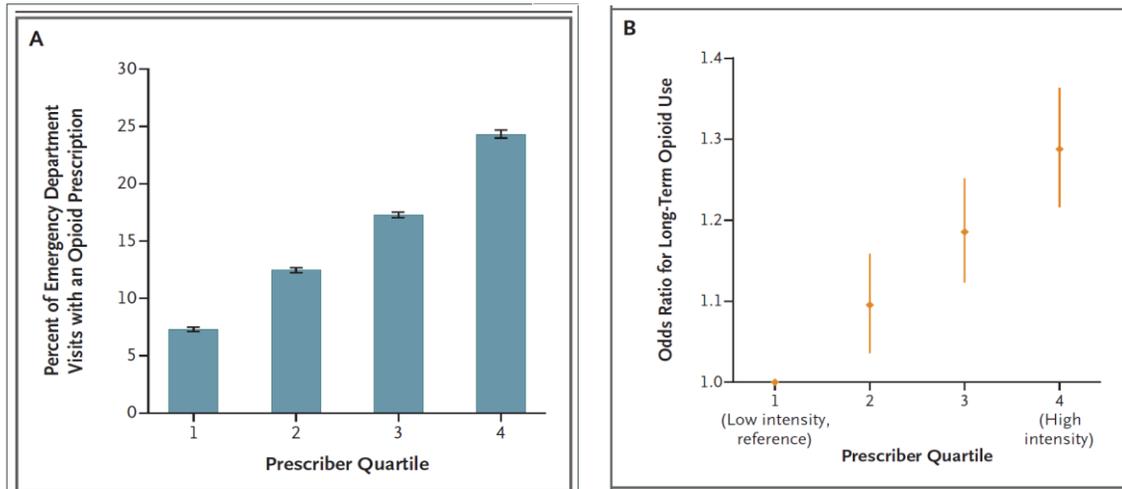
US Overdose Death and Prescription Rates 1999-2016



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Prescriber Behavior



Barnett et al. (2017). New England Journal of Medicine

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Drug Reformulations

- 2010 Abuse-resistant OxyContin released

PDMPs

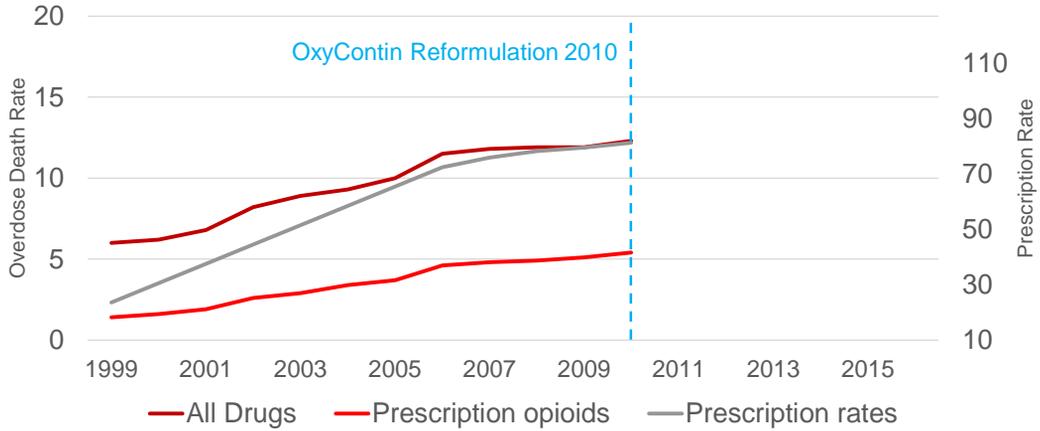
- 2012 Kentucky, Ohio, and West Virginia
- 2015 Pennsylvania

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US Overdose Death and Prescription Rates 1999-2016

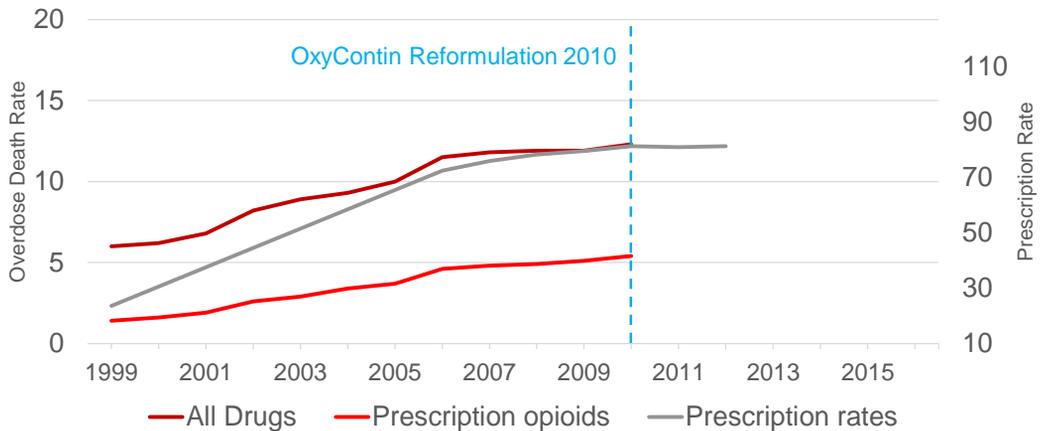


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US Overdose Death and Prescription Rates 1999-2016

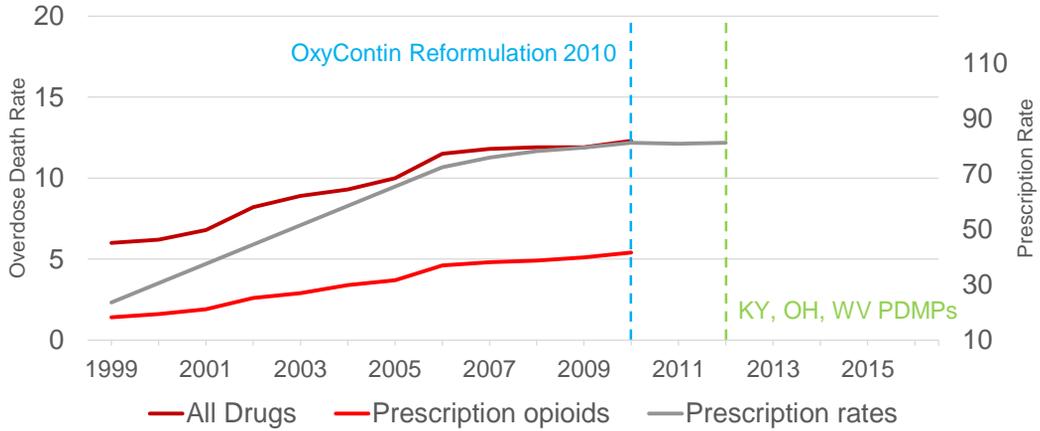


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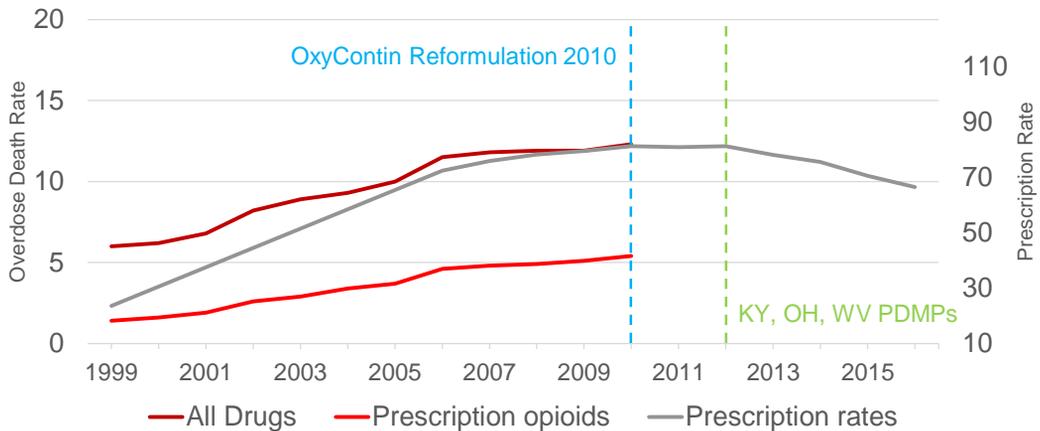


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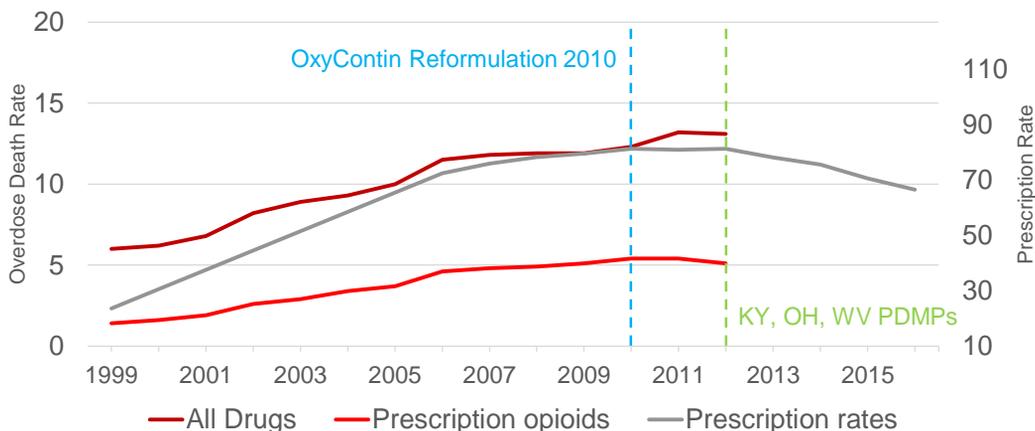


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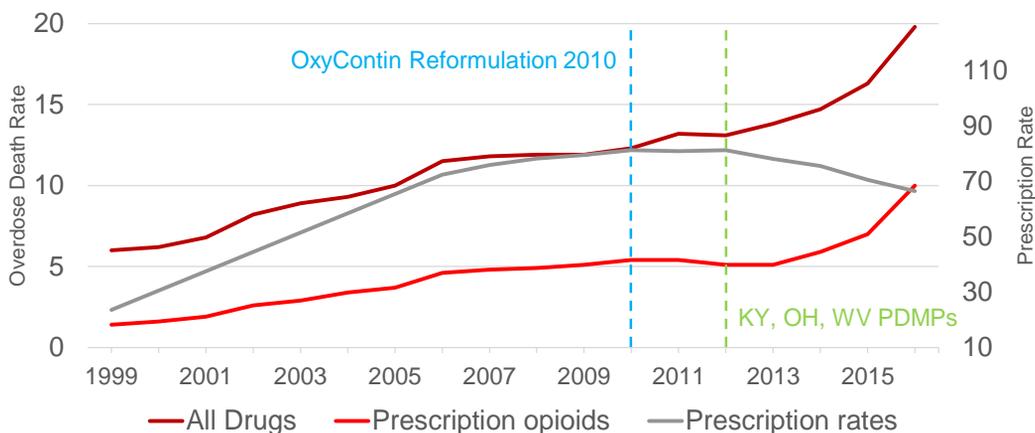


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US Overdose Death and Prescription Rates 1999-2016



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Overview

1. Supply-side drivers
2. Demand-side drivers



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Demand-side Factors

- Community economic disadvantage
- Mental health problems
- Relational problems
- Health conditions (chronic pain, sedentary life styles, etc.)

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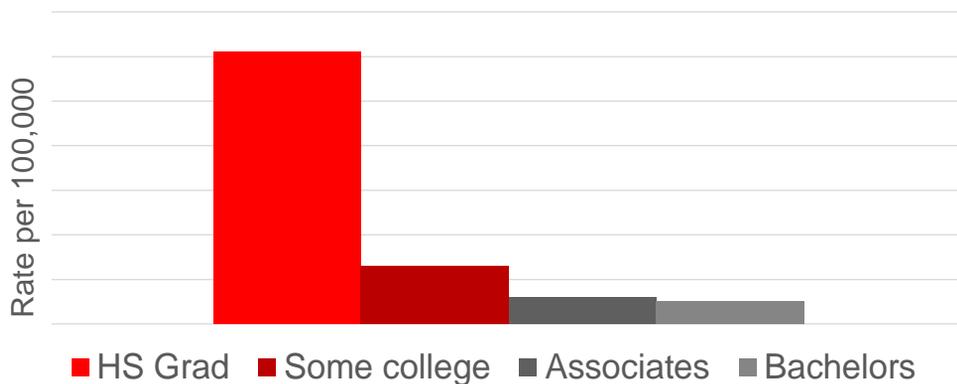
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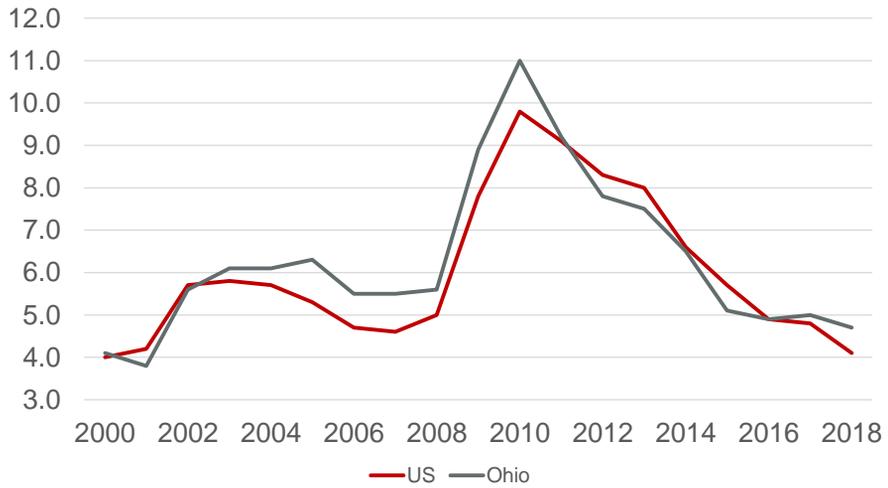


Ohio Overdose Rates by Education Level

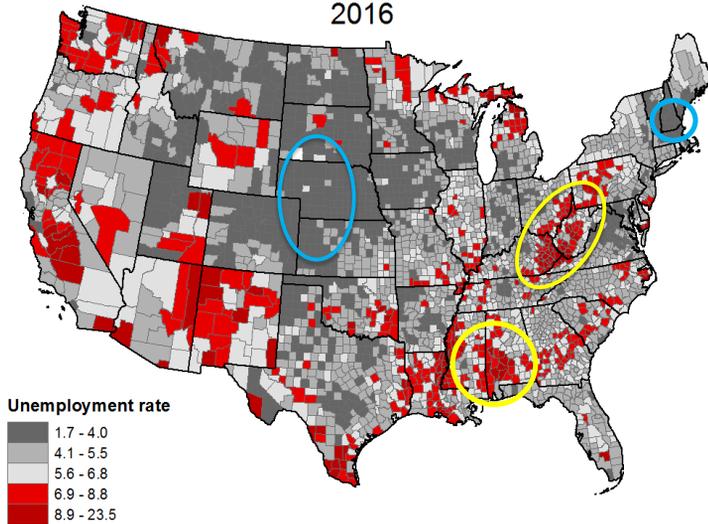


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US and Ohio Unemployment Rates 2000-16



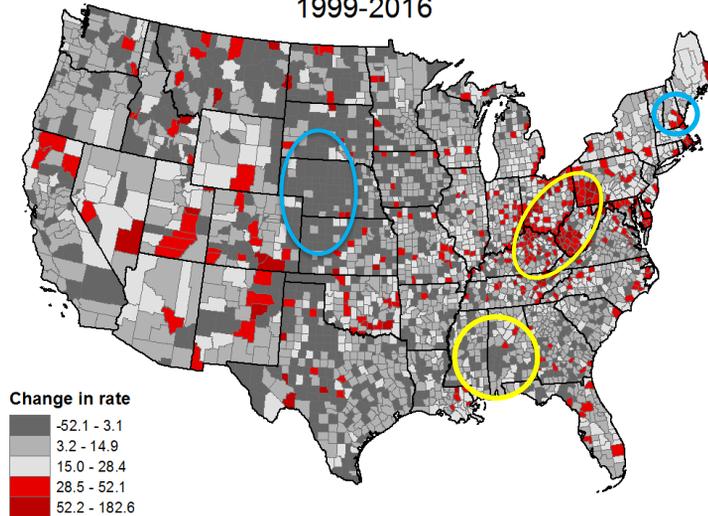
County Unemployment Rate 2016





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Change in Overdose Death Rate
1999-2016



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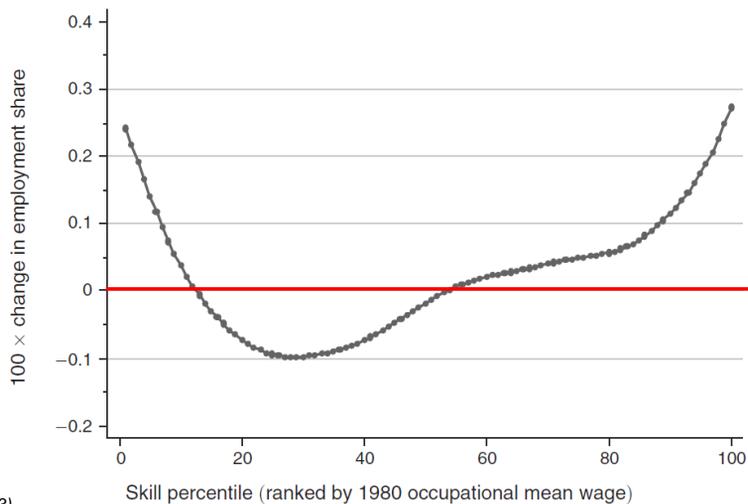
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Unemployment rates

1. Mask type of job



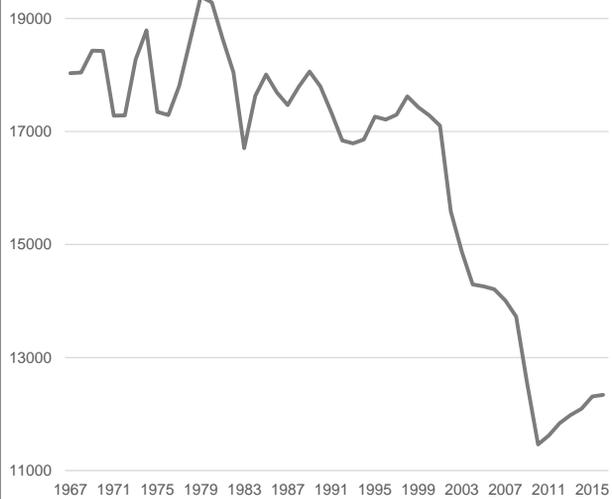
Panel A. Smoothed changes in employment by skill percentile, 1980–2005



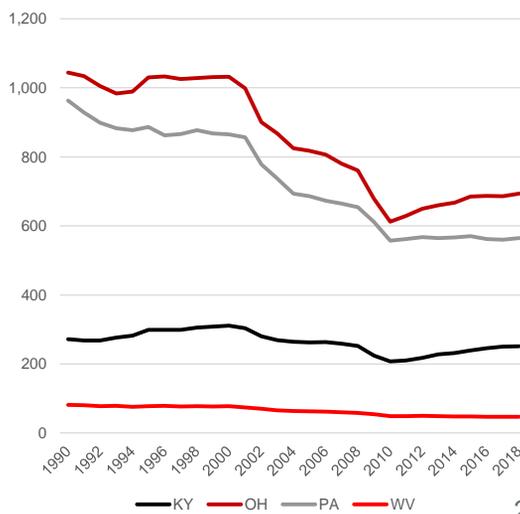
Source: Autor and Dorn (2013)



US Manufacturing Jobs 1967-2016



Manufacturing Jobs 1990-2018
KY, OH, PA, WV





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1992



■ < HS ■ HS ■ 2-YEAR ■ BACHELORS

2016



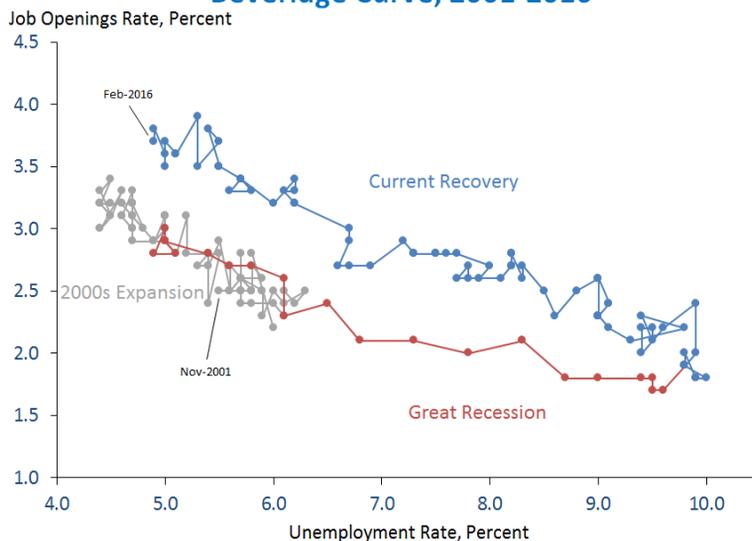
■ < HS ■ HS ■ 2-YEAR ■ BACHELORS

Ohio's Industries	2000	2015
Manufacturing	15.4	10.4
Government and government enterprises	12.1	11.5
Retail trade	11.7	10.1
Health care and social assistance	9.9	12.8
Accommodation and food services	6.4	7.2



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Beveridge Curve, 2001-2016



Source: Bureau of Labor Statistics, Current Population Survey; Bureau of Labor Statistics, Job Openings and Labor Turnover Survey.



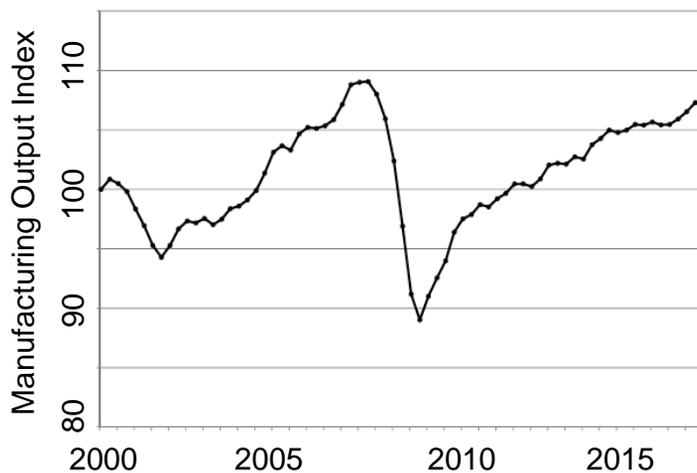
Koffi, Hurst, and Schwartz (2018)

- Manufacturing decline lowered incomes for prime aged workers
- State manufacturing decline increased OD rates (causal)

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Figure 7: U.S. Quarterly Real Output Index for the Manufacturing Sector (2000Q1 = 100)



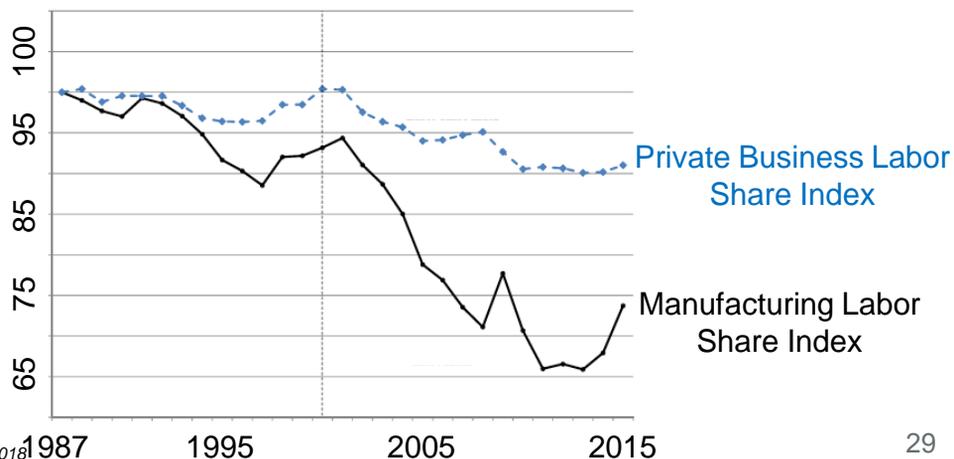
Source: Kofi, Hurst, Schwartz 2018

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Figure 8: Labor Share Index for US Manufacturing and Private Non-Farm Business Sectors
(Year 2000 = 100)

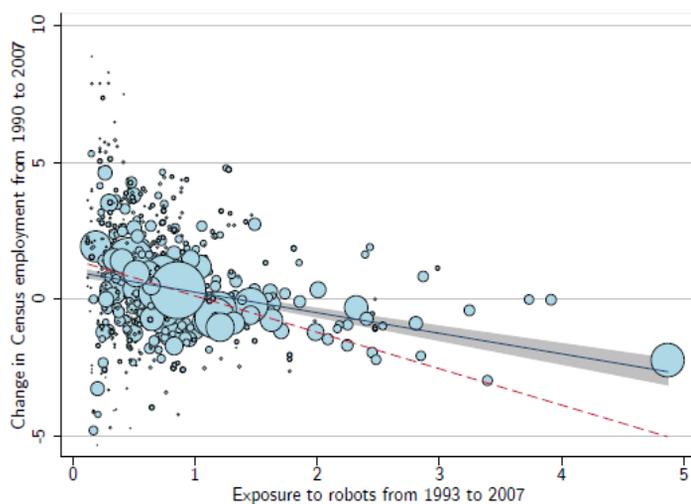


Source: Kofi, Hurst, Schwartz 2018

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One more robot
per thousand
workers reduces
the
Employment/Pop
Ratio by about
0.18-0.24
percentage points

Source: Acemoglu and Restrepo 2017

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Carnegie Mellon Reels After Uber Lures Away Researchers

Uber staffs new tech center with researchers poached from its collaborator on self-driving technology

Robot spending will hit \$188 billion by 2020, report predicts

Robotics and related services are expected to reach new heights, driven by an expanding market.

Amazon opens grocery store with no checkouts

January 22, 2018

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Currently 47 million workers with HS degree or less

Driving: 3.4 million

Grocery store attendants: 2.4 million

Fast food counter workers: 3.7 million

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Unemployment rates

1. Mask type of job
2. Mask LF participation



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Labor Force Participation 1948-2016



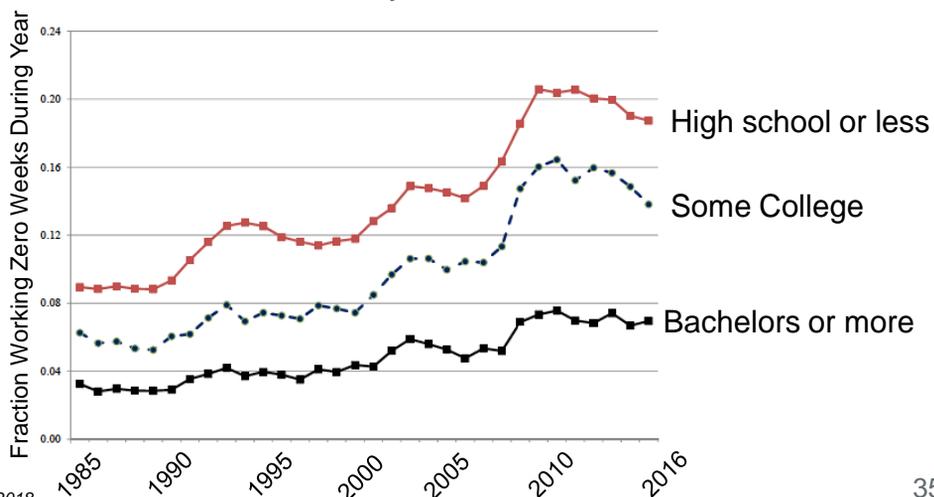
Source: BLS

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Fraction Working Zero Weeks During the Year Males 21-55 by Education



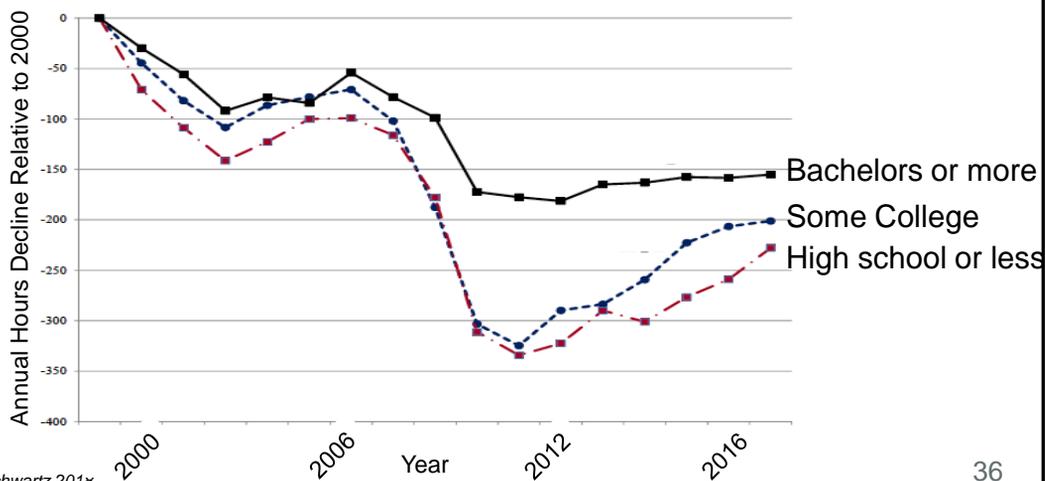
Source: Kofi, Hurst, Schwartz 2018

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Annual Hours Worked Males 21-55 by Education



Source: Kofi, Hurst, Schwartz 2018

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Men NLF express much lower levels of meaning to their daily lives than LF men

- **Not so for women**

Half of prime age men NLF use daily pain medication (Krueger 2017)

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In 2016, ~2.1 million people with opioid use disorder

Could account for 78% of non-boomer LFP drop

Could be 100% in KY, OH, PA, WV

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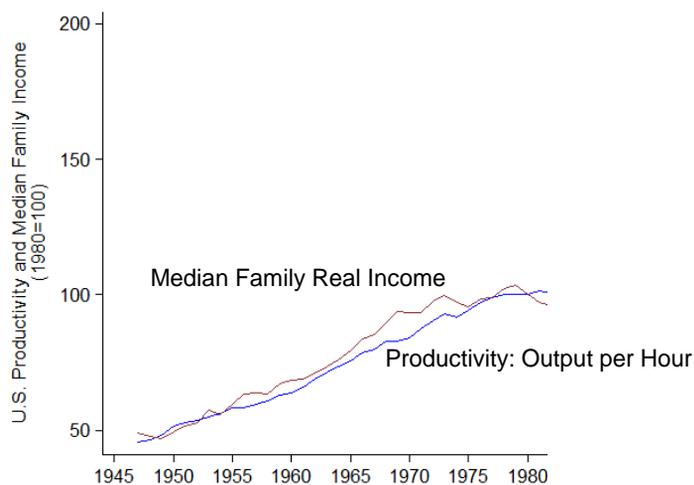


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Consequences of Job Bifurcation and Decreased LFP



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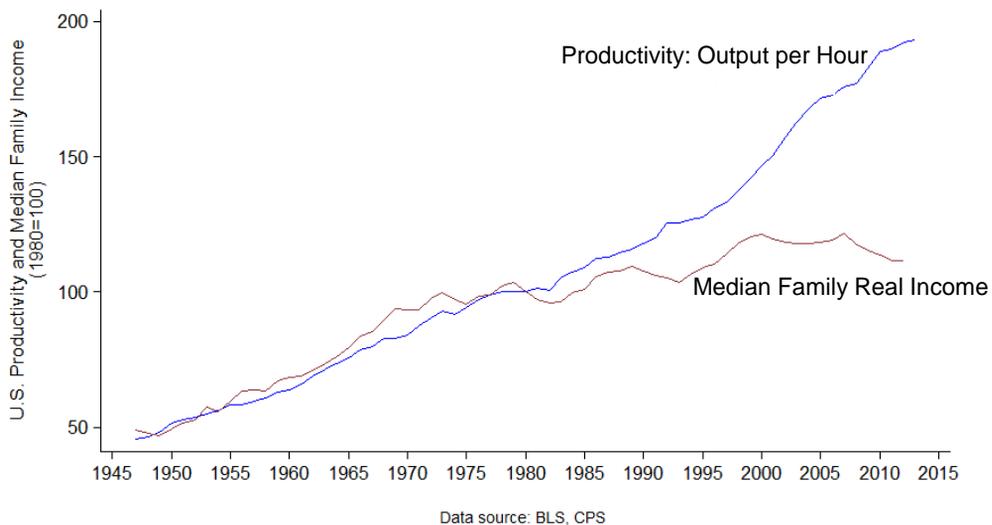


Data source: BLS, CPS

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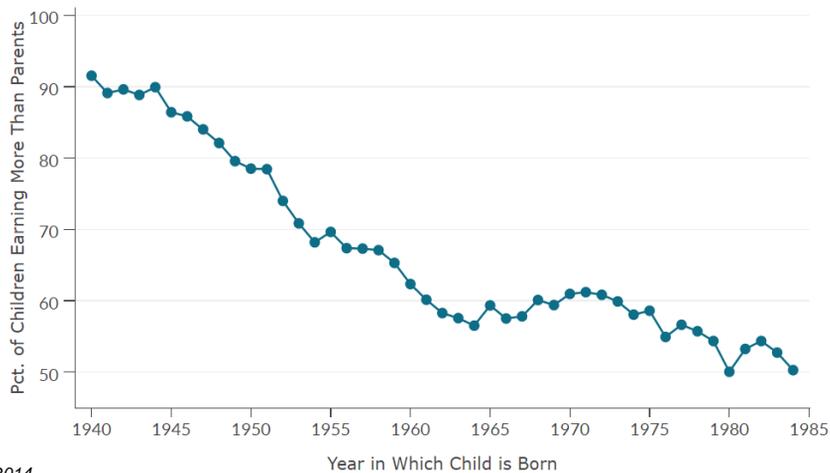
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The Fading American Dream

Percent of Children Earning More than their Parents, by Year of Birth



Source: Chetty et al. 2014

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Academic Research

- Hollingsworth et al. 2017
- Kreuger 2017
- Betz and Jones 2018
- Kofi, Hurst, Schwartz 2018
- Ruhm 2018; Currie, Jin, Schnell 2018

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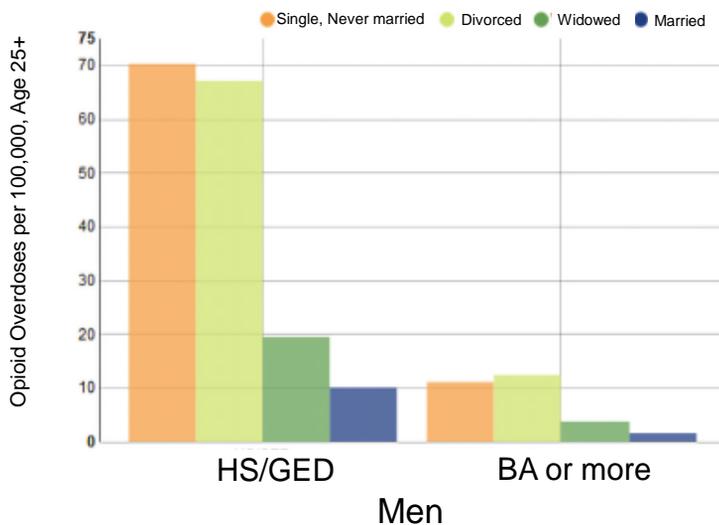


Demand side: Relationships

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Source(s): Social Capital Project Staff calculations, crude rates shown. Includes all deaths, unintended or otherwise. CDC. See Source Notes for details.

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Conclusions? ...nuanced



Leading Causes of Death Under 55 in 2016

Cause	KY, OH, PA, WV	US
Drug overdoses	10,415	56,679
Cancer	6,422	58,740
Heart disease	5,694	49,498
Suicide	3,048	28,999
Homicide	1,638	16,970
Chronic liver disease	998	12,190

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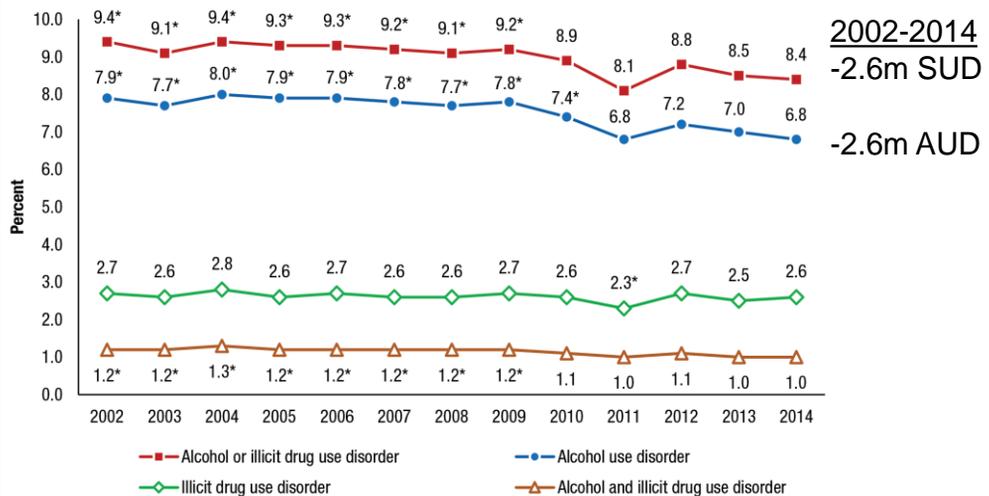
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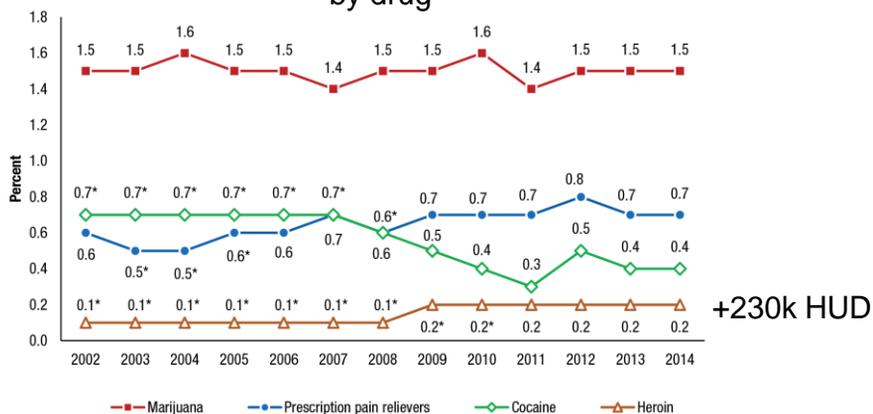
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Trends in substance use disorder in the past year age 18+

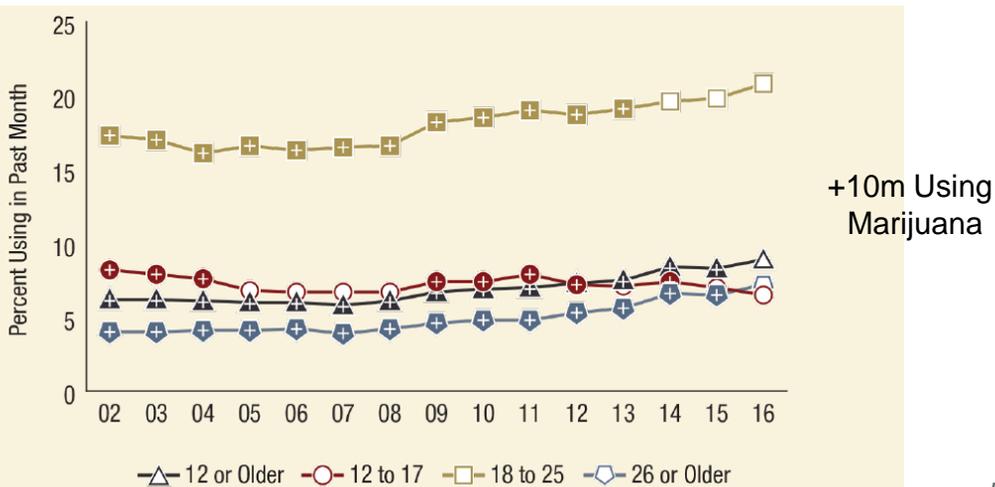


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Trends in substance use disorder in the past year age 18+ by drug



Past month Marijuana use age 12+





Takeaways

1. US drug crisis is more than a supply problem
2. Decline in economic opportunity impacts OD rates
3. Coming automation will likely exacerbate

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Policy recommendations

Prevent new users

1. More thoughtful (slower) approach to economic policy
2. Investments in education/health
3. Better support of families EITC
4. Reduce prescription rates back to 1995 levels
5. Increase access to alternatives: Marijuana with caveats

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Policy recommendations

Help existing users

1. Increase treatment for those already addicted
2. Reducing supply of illicit drugs...good luck



Thank You!
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