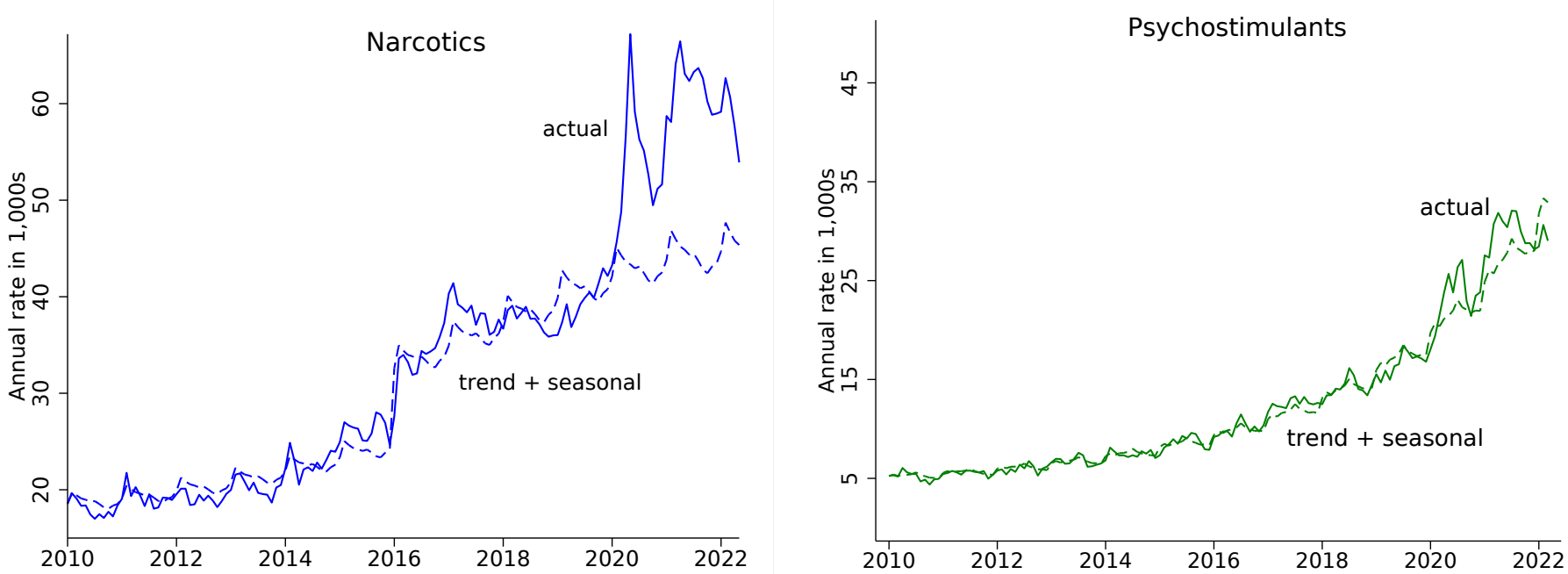
November 2022 Update of *Substance Abuse during the Pandemic: Implications for Labor-Force Participation*

Karen Kopecky

November 23, 2022

Prime-age opioid and meth deaths were elevated during the pandemic suggesting that rates of substance abuse may have also increased.



Source: Mulligan (2022), CDC database of death certificates.

- Between April 2020 and June 2022 there were 25% more opioid-overdose deaths than we would have expected based on pre-pandemic death rates.
- And 4% more meth (crystal methamphetamine) deaths.

And opioid and meth abuse is associated with lower LFP.

Estimates using 2015-18 NSDUH data indicate:

- For those with opioid-use disorder
  - LFPR was 70%,
  - 13 percentage points ↓ than that of non-users.
- For those with meth-use disorder
  - LFPR was 67%,
  - 16 percentage points ↓ than that of non-users.

And opioid and meth abuse is associated with lower LFP.

Estimates using 2015-18 NSDUH data indicate:

- For those with opioid-use disorder
  - LFPR was 70%,
  - 13 percentage points ↓ than that of non-users.
- For those with meth-use disorder
  - LFPR was 67%,
  - 16 percentage points ↓ than that of non-users.

Could increased substance abuse during the pandemic be an important factor contributing to lower LFP?

U.S. prime-age labor force participation (LFP) declined at the start of the COVID-19 pandemic and recovery has been slow.

Source: U.S. Bureau of Labor Statistics.

Could increased substance abuse during the pandemic be an important factor contributing to lower LFP?

- We do a simple back of the envelope calculation to bound the effects of increased substance abuse on LFP.

- Find:
  - $\uparrow$ substance-abuse accounts for 12% to 38% of the decline in prime-age LFP between Feb. 2020 and June 2022.
  - And 6% to 19% of the decline from predicted June 2022 levels using the pre-pandemic trend.

- Upper bound assumes number of abusers $\uparrow$ in proportion with number of deaths (death rate conditional on abusing did not change).
- Lower bound assumes all $\uparrow$ in opioid deaths is due to $\uparrow$ death rate and only $\uparrow$ meth deaths reflects $\uparrow$ in number of abusers.

▸ details

By the numbers

- If all of the increase in deaths reflects an increase in users (the death rate conditional on usage did not increase) then this means that the number of users also increased by 25% for opioids and 4% for meth.
- This is approximately 1.8 million additional opioid addicts and 640,000 additional meth addicts.
- Accounting for addicts lower LFP rate means 342,000 additional people may be out of the labor force due to increased opioid or meth usage since the start of the pandemic. 237,000 for opioids and 105,000 for meth.
- These people account for 38% of the decline in LFP between Feb 2020 and June 2022. If only meth account for 12% of the decline.

Is there any evidence that the number of substance abusers increased?

- NSDUH has no data on substance use after 2019. However,
  - CDC found that $\uparrow$ in fentanyl deaths during the pandemic was mainly in Western states, while historically, fentanyl-related deaths were concentrated in the East.
  - Kim et al. (2021) found that during the pandemic a larger fraction of opioid-overdose deaths had no prior opioid-use disorder treatment in Illinois.

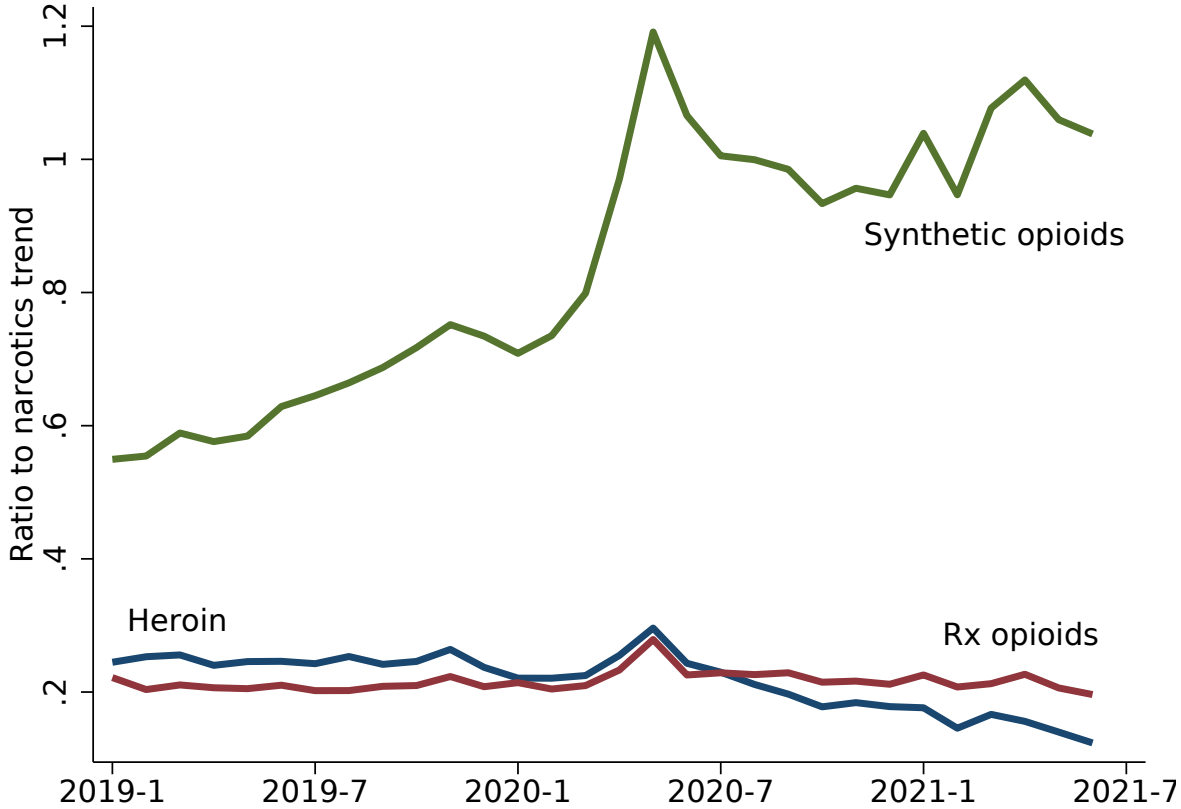
Did death rates of users go up?

- Evidence on ↑ death rates due to declines in medical care is mixed:
  - A survey of centers prescribing medication for opioid-use disorder (OUD) found a quick and efficient move to telemedicine (Uscher-Pines et al., 2020).
  - Patients with an existing OUD did not have any trouble with medication refills or clinical visits early in the pandemic (Huskamp et al., 2020).
  - Fewer naloxone prescriptions were filled during the early weeks of the pandemic (O'Donoghue et al., 2021).
  - Buprenorphine prescriptions were low among new patients with OUD from March to October 2020 (Currie et al., 2021).

Did death rates of users go up?

- However, death patterns indicate a shift in the composition of opioid consumption during the pandemic towards more deadly fentanyl.

Opioid deaths by type relative to narcotics trend, ages 18–69



Source: Mulligan (2022), CDC database of death certificates.

Why might the number of people with substance-use disorder have increased?

1. $\uparrow$ anxiety, isolation, joblessness, etc. (Weiner, 2020).
2. Cost of substance abuse $\downarrow$:
   - Shift from organic opioids to fentanyl $\downarrow$ price per MME (Mulligan,2022).
   - Fewer options for spending time and money. Like many leisure goods, abusing drugs requires time. $\downarrow$ in the value of time $\downarrow$ the total cost of substance abuse.

Since drugs are addictive, $\uparrow$ in substance abuse during the pandemic $\Rightarrow \downarrow$ LFPRs even after the pandemic has ended.

What are the implications for LFP going forward?

Declines in LFP due to $\uparrow$ substance abuse are likely to be very persistent:

- Addiction is a very persistent state
  - 96% of opioid addicts are still addicts 1 year later conditional on surviving (NSDUH).
- LFP $\downarrow$ with years of substance abuse
  - LFPR's of veteran opioids/meth abusers ($>$ 1 year of abuse) are 5–10 percentage points $\downarrow$ than new opioid/meth abusers (first year of abuse) (NSDUH).

The End

EXTRA SLIDES

Imputed abusers ages 25–54 assuming no change in the death rate conditional on abuse, April 2020 – June 2022

	Opioids	Meth	Total
Number of deaths			
Actual	123,496	62,051	185,547
Predicted from trend + seasonals	99,041	59,910	158,951
Additional deaths	24,455	2,141	26,596
Pre-pandemic annual death rate	0.605%	0.266%	
Additional number of abusers (1000s)	1,796	644	2,440

- Actual deaths - predicted deaths = **additional number of deaths** due to the pandemic.
- Dividing by pre-pandemic conditional death rates = additional number of abusers

▸ total abusers ▸ back

Imputed additional number of prime-age individuals out of the labor force due to substance abuse

	Opioids	Meth	Total
Additional number of abusers (1000s)	1,796	644	2,440
LFPR of non-abusers - LFPR of abusers (pp)	13.2	16.3	14.0
Additional number out of labor force (1,000s)	237	105	342

- Multiplying the additional number of abusers by the difference in LFPRs between non-abusers and abusers gives 342,000 additional people out of the LF due to elevated substance abuse.

back

Share of total LFP decline that is due to increased substance abuse: **upper bound estimate**

Additional number out of LF due to substance abuse (1,000s)	342
Total decline in LF (1,000s):	
Feb 2020 to Jun 2022	**890**
Share of decline due to increased substance abuse	38.4%
Predicted Jun 2021 to actual Jun 2022	**1,780**
Share of decline due to increased substance abuse	19.2%

- These 342,000 people account for **38.4%** of the 890,000 decline in prime-age labor supply between Feb 2020 and Jun 2022.
- They account for **19.2%** of the 1.78 million decline in prime-age labor supply between predicted June 2022 levels and actual June 2022 levels.

back

Share of total LFP decline that is due to increased substance abuse: **lower bound estimate**

Additional number out of LF due to increased meth abuse only (1,000s)	105
Decline in LF (1000s):	
Feb 2020 to Jun 2021	**890**
Share of decline due to increased substance abuse	11.8%
Predicted Jun 2021 to actual	**1,780**
Share of decline due to increased substance abuse	5.9%

- The 105,000 additional meth users account for **11.8%** of the 890,000 decline in prime-age labor supply between Feb 2020 and Jun 2022.
- They account for **5.9%** of the 1.78 million decline in prime-age labor supply between predicted Jun 2022 levels and actual Jun 2022 levels.

back

Total deaths and imputed abusers ages 25–54 assuming no change in the death rate conditional on abuse, April 2020 – June 2022, full table

	Opioids	Meth	Total
Number of deaths			
Actual	123,496	62,051	185,547
Predicted from trend + seasonals	99,041	59,910	158,951
Additional deaths	24,455	2,141	26,596
Pre-pandemic annual death rate	0.605%	0.266%	
Alive with substance use disorder (1000s)			
Actual	9,069	18,665	27,734
Predicted from trend + seasonals	7,273	18,021	25,294
Additional number of abusers (1000s)	1,796	644	2,440

back