Economic Impacts of the Opioid Epidemic

Kyle Fee
Senior Policy Analyst
Community Development
Federal Reserve Bank of Cleveland
DISCLAIMER....

These are my views and not representative of the Federal Reserve Bank of Cleveland or the Federal Reserve System.
Why is the Federal Reserve interested in this topic?

- “I cannot find workers that can pass a drug test.”

- Drug overdose is now leading cause of death for Americans <50. (Katz, 2017)

- Fourth Federal Reserve District is arguably the epicenter of the epidemic.
Source: Center’s for Disease Control
Why is the Federal Reserve interested in this topic?

- “I cannot find workers that can pass a drug test.”

- Drug overdose is now leading cause of death for Americans <50. (Katz, 2017)

- Fourth Federal Reserve District is arguably the epicenter of the epidemic.

- Potential for significant economic implications.
Data Quality Issues Pose Challenges

- Limited Availability
- Consistency
- Timeliness

Data quality issues make it difficult to know when things are improving.
What have we heard:

- **Approximately half of our Business Advisory Council** members told us that opioids have affected them in some way, either through workers, workers’ family or communities.

- **65% of direct service providers** across our district indicated the opioid epidemic has impacted their organization (2018 Community Issues Survey).
  - Many respondents noted that this issue had the single most significant impact on the welfare of the communities they serve.
  - A plethora of comments described stresses in the foster care system.
  - Other stated that they are experiencing capacity constraints as funding is increasingly being redirected from other needs in order to address opioid-related problems.
Economic Impact
Economic Impact Study Estimates

- Florence et al (2016) estimate the total societal costs of prescription opioid abuse was **$78.5 billion in 2013 alone**, with $20 billion attributed to lost productivity and production; 0.5% of GDP.

- Council of Economic Advisors (2017) using different assumptions, estimate the economic cost of the epidemic to be **$504 billion in 2015**; 2.75% of GDP.

- Altarum (2017) estimate costs have exceeded **$1 trillion from 2001 to 2017 with an additional $500 billion by 2020**; 0.4% to 2.6% of GDP.
Things Not Considered in Economic Impact Studies

- Local public finances
- Household finances
- Child development costs
- Criminal justice system
Labor Market Implications
Connections between the Opioid Crisis and the Labor Market?

• Evidence that the labor market causes opioid abuse.
  • Increase in overdose deaths, suicides, and liver disease or “Deaths of despair” over the poor labor market prospects of low education groups (Case and Deaton, 2015).

• Evidence that opioid availability causes poor labor market outcomes.
  • Labor force participation is lower in counties with higher opioid Rx rates, even after accounting for economic conditions (Krueger, 2018; Ruhm, 2018).

• The research is far from conclusive as researchers across a range of disciplines continue to work on a variety of issues.
Did the Great Recession Increase Opioid Use?

- The Great Recession was a major shock to the labor market.

- If the labor market drives opioid use, we should see an increase in use whose timing coincides with the Great Recession.

- We use individual-level data from a national survey focused on drug abuse.
  - The National Survey on Drug Use and Health (NSDUH)
The Great Recession Increased Joblessness.

Source: The National Survey on Drug Use and Health (NSDUH)
The Great Recession Did Not Increase Opioid Abuse.

Source: The National Survey on Drug Use and Health (NSDUH)
Does Opioid Availability Cause Poor Labor Market Outcomes?

• We follow up with a study of how the local availability of opioid Rx’s impacts labor market outcomes.

• Innovations that we add:
  - Use county-level Rx data from 2006-2016
  - Link individual labor market outcomes more accurately with geography
    • This improves measurement for about 1/3 of US, often in rural areas
  - Link timing of Rx rate more accurately to labor market outcomes
Opioid Availability Causes Poor Labor Market Outcomes

- Moving from a low- to a high-Rx county:

  Is a change from \( \approx 60 \) Rx’s per 100 people to \( \approx 120 \) Rx’s

<table>
<thead>
<tr>
<th></th>
<th>Men Participate</th>
<th>Men Emp/Pop</th>
<th>Men Unem/Pop</th>
<th>Women Participate</th>
<th>Women Emp/Pop</th>
<th>Women Unem/Pop</th>
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</thead>
<tbody>
<tr>
<td>Lagged Prescrip.</td>
<td>-0.046***</td>
<td>-0.049***</td>
<td>0.004*</td>
<td>-0.014**</td>
<td>-0.015**</td>
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</tr>
<tr>
<td></td>
<td>(0.006)</td>
<td>(0.007)</td>
<td>(0.002)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.09</td>
<td>0.11</td>
<td>0.02</td>
<td>0.06</td>
<td>0.06</td>
<td>0.02</td>
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<tr>
<td>( N )</td>
<td>5,835,200</td>
<td>5,835,200</td>
<td>5,835,200</td>
<td>6,021,178</td>
<td>6,021,178</td>
<td>6,021,178</td>
</tr>
</tbody>
</table>

All regressions include year and Census division fixed effects. Robust standard errors with clustering on geographic units.

* \( p < 0.05 \), ** \( p < 0.01 \), *** \( p < 0.001 \)
Opioid Availability Causes Poor Labor Market Outcomes

<table>
<thead>
<tr>
<th>Prime Age Men by Race/Ethnicity and Education</th>
<th>White</th>
<th>White</th>
<th>Nonwhite</th>
<th>Nonwhite</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HS or less</td>
<td>More than HS</td>
<td>HS or less</td>
<td>More than HS</td>
</tr>
<tr>
<td>Lagged Prescrip.</td>
<td>-0.074***</td>
<td>-0.019***</td>
<td>-0.097***</td>
<td>-0.041***</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.003)</td>
<td>(0.013)</td>
<td>(0.005)</td>
</tr>
<tr>
<td>R²</td>
<td>0.07</td>
<td>0.03</td>
<td>0.11</td>
<td>0.04</td>
</tr>
<tr>
<td>N</td>
<td>2,053,403</td>
<td>2,418,539</td>
<td>735,239</td>
<td>628,019</td>
</tr>
</tbody>
</table>

All regressions include full set of controls with year and Census division fixed effects. Robust standard errors with clustering on geographic units.

* p < 0.05, ** p < 0.01, *** p < 0.001
Summary

• Economic impact studies probably underestimate the impact of the opioid epidemic.

• Influential researchers believe opioid abuse is a symptom of despair; from poor labor market prospects.

• We interpret the evidence from research as indicating:
  - Opioid abuse is not influenced by short-term labor market shocks.
  - Poor labor market outcomes are a symptom of opioid availability.

• Many ongoing issues to investigate.