Impact Of Opioid-Related Policies On Opioid Use And Other Medical Care

WCRI Webinar
October 21, 2021
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• Diverse membership support, including gov’t agencies, employers, insurers, labor unions, service providers, etc.
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Other Areas of Research

- Access to Care
- Ambulatory Surgery Centers
- Comparing Group Health and Workers Compensation
- Drug Formularies
- Fee Schedules
- Litigation & Dispute Resolution
- Medical Prices & Utilization
- Outcomes for Injured Workers
- Physician Dispensing
- Provider Choice
- Return to Work
- Rx and Opioids
- State Comparison Studies on Income and Medical Benefits
- Treatment Guidelines
Dr. Bogdan Savych  
*Public Policy Analyst*

Dr. Savych analyzes issues related to labor and health economics, dispute resolution, and the design of income benefit systems. He currently conducts research that examines self-reported outcomes of injured workers, impact of opioid prescriptions on return to work, and impact of variation in medical prices on workers’ post injury outcomes. Dr. Savych received his Ph.D. from Pardee RAND Graduate School.
Impact Of Opioid-Related Policies On Opioid Use And Other Medical Care

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Opioid Utilization Decreased Since 2010

Morphine Milligram Equivalent Amount Of Opioids Per Claim

Percentage Of Claims With Opioid Prescriptions

12 Months’ Maturity; 7DLT: Claims With More Than 7 Days Of Lost Time
These Changes Coincided With Greater Policy Attention To Opioid Abuse And Prescribing

- Greater attention to prescribing by payors and providers
- State-level policies targeting different dimensions of prescribing (primary analysis focus)
  - Must-access Prescription Drug Monitoring Programs (PDMP)
  - Limits on initial opioid prescriptions
  - Pain treatment guidelines
  - Provider education
  - Drug formularies
- Policy interventions at the federal level
  - CDC guidelines
Research Questions And Findings About State-Level Policies Limiting Opioid Prescriptions

• Did they reduce opioid utilization?
  • Lower amount of opioids, no change in whether opioids were prescribed

• Did they affect care that may be a substitute for opioids?
  • Evidence of increase in interventional pain management and increase in non-opioid pain medications for neurologic back pain injuries
  • Little change for most other injuries

• Do they affect duration of disability?
  • Little change in duration
Data And Methods

• Data for 33 states
• Workers injured between 10/2009 and 3/2018 at 12 months’ maturity (evaluated in 3/2019)
  • Similar conclusions when using data for injuries from 10/2009 to 9/2018 at 6 months’ maturity, despite more policy variation
• Focus on sample of all claims or claims with opioids
• Comparing differential outcomes when states adopted opioid policies, relative to those that did not adopt similar policies
• Highlight results for 2 of the 4 policies we examined
Opioid Policies We Examine
Must-Access Prescription Drug Monitoring Programs

- Designed to limit instances of multiple prescriptions at the same time
- Analysis focuses on must-access PDMPs
- Other important dimensions of policies
  - Frequency of updating
  - Electronic access
  - Who is required to access PDMPs
Amount Of Opioids Prescribed Decreased After States Introduced PDMPs

Average for claims at 12 months of maturity. For the control group, we use the median policy implementation month in the sample. States are sorted by change in measure from before to after policy implementation.

PDMP: Must-Access Prescription Drug Monitoring Programs

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Limits On Initial Opioid Prescriptions

- Address a concern that extensive new prescriptions may contribute to longer-term use of opioids
- Initial opioid prescriptions limited to 3, 5, 7 or 14 days of supply
- Policies vary in other dimensions, including
  - Types of prescriptions affected
  - Exceptions granted for chronic pain, cancer, substance use disorder treatment, or surgical pain
  - Exceptions based on a clinician’s professional judgment
Prescriptions Above The Limit Were Common After Limits On Initial Rx Were Introduced

### Percentage of Initial Opioid Prescriptions Above Days of Supply Limit, by State

| State | KY | FL | WI | MN | NJ | NC | AZ | NY | LA | DE | MI | PA | CT | SC | MA | MO | IN | VA | AR | TN | NV | MD | Controls |
|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|     |
| Limits on initial supply | 3 | 3 | 3 | 4 | 5 | 5 | 5 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 10 | 14 | N/A | N/A |
Effects Of Policies On Opioid Use Measures
Opioid Use Measures That We Examine

- Morphine milligram equivalent amount of opioids
- Whether workers had any prescriptions
- Opioid amount and number of opioid prescriptions among those with opioids
- Dangerous use indicators
  - Longer-term opioid prescribing
  - More than 90 days of opioids prescribed
  - Daily dose of opioids over 120 mg
# Must-Access PDMPs Contributed To Lower Overall Opioid Amount

<table>
<thead>
<tr>
<th>Policy Measure</th>
<th>Morphine Milligram Equivalent Amount Of Opioids Per All Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must-Access PDMP</td>
<td>-12%**</td>
</tr>
<tr>
<td>Limits On Initial Opioid Rx</td>
<td>3%</td>
</tr>
<tr>
<td>Mean Of Outcome Variable</td>
<td>167</td>
</tr>
</tbody>
</table>

Percentage change in morphine equivalent amount of opioids due to the policy. Estimates from state-level regression for claims at 12 months’ maturity. Sample includes all claims. *, **, *** Statistically significant at 10%, 5%, and 1% level, respectively.
Policies Had Little Effect On Whether Workers Had Opioids

<table>
<thead>
<tr>
<th>Policy Measure</th>
<th>Any Opioid Prescriptions Among All Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must-Access PDMP</td>
<td>0%</td>
</tr>
<tr>
<td>Limits On Initial Opioid Rx</td>
<td>4%</td>
</tr>
<tr>
<td>Mean Of Outcome Variable</td>
<td>0.16</td>
</tr>
</tbody>
</table>

Percentage change in whether workers had any opioid prescriptions due to the policy. Estimates from state-level regression for claims at 12 months’ maturity. Sample includes all claims. *, **, *** Statistically significant at 10%, 5%, and 1% level, respectively.
## Policies Reduced Amount Of Opioids Among Those With Opioid Prescriptions

<table>
<thead>
<tr>
<th>Policy Measure</th>
<th>Morphine Milligram Equivalent Amount Of Opioids Per Claims With Opioids</th>
<th>Number of Opioid Prescriptions Among Those with Opioids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must-Access PDMP</td>
<td>-12%***</td>
<td>-5%***</td>
</tr>
<tr>
<td>Limits On Initial Opioid Rx</td>
<td>-19%***</td>
<td>-2%</td>
</tr>
<tr>
<td>Mean Of Outcome Variable</td>
<td>1,069</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Percentage change in morphine equivalent amount of opioids and number of opioid prescriptions due to the policy. Estimates from state-level regression for claims at 12 months’ maturity. Sample includes claims with opioids. *,**,*** Statistically significant at 10%, 5%, and 1% level, respectively.
Policies Had Small Effects On Dangerous Use Indicators

<table>
<thead>
<tr>
<th>Policy Measure</th>
<th>Longer-Term Opioid Prescriptions (Claims With Opioids)</th>
<th>More Than 90 Days Prescribed (Claims With Opioids)</th>
<th>Daily Dose Greater Than 120 mg (Claims With Opioids)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must-Access PDMP</td>
<td>-12%***</td>
<td>-5%</td>
<td>-4%</td>
</tr>
<tr>
<td>Limits On Initial Opioid Rx</td>
<td>-1%</td>
<td>-0%</td>
<td>-3%</td>
</tr>
<tr>
<td>Mean Of Outcome Variable</td>
<td>0.060</td>
<td>0.101</td>
<td>0.0159</td>
</tr>
</tbody>
</table>

Percentage decline in outcome measure due to the policy. Estimates from state-level regression for claims at 12 months’ maturity. Sample includes claims with opioids.

*,**,*** Statistically significant at 5%, 1%, and 0.1% level, respectively.
Decrease In Opioid Use Observed Among Low Back And Soft Tissue Injuries

<table>
<thead>
<tr>
<th>Injury Group</th>
<th>Effect Of Must-Access PDMPs</th>
<th>Average MME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fractures</td>
<td>1%</td>
<td>355</td>
</tr>
<tr>
<td>Lacerations And Contusions</td>
<td>10%</td>
<td>34</td>
</tr>
<tr>
<td>Inflammations</td>
<td>-13%</td>
<td>360</td>
</tr>
<tr>
<td>Neurologic Spine Pain</td>
<td>-13%**</td>
<td>1,232</td>
</tr>
<tr>
<td>Spine Sprains, Strains, And Other Nonspecific Spine Pain</td>
<td>-21%**</td>
<td>163</td>
</tr>
<tr>
<td>Other Sprains And Strains</td>
<td>-10%*</td>
<td>139</td>
</tr>
<tr>
<td>Upper Extremity Neurologic</td>
<td>1%</td>
<td>242</td>
</tr>
<tr>
<td>Other Injuries</td>
<td>-5%</td>
<td>124</td>
</tr>
</tbody>
</table>

Percentage change in morphine equivalent amount of opioids due to the policy. Estimates from state-level regression for claims at 12 months’ maturity. Sample includes all claims. MME: Morphine milligram equivalent amount.

*,**,*** Statistically significant at 5%, 1%, and 0.1% level, respectively.
Effects Of Policies On Other Pain Management Treatment
We Examine Measures That May Be A Substitute For Opioid Therapies

- Whether workers had non-opioid pain medications
- Whether workers had interventional pain management treatment
  - i.e. discography and decompression, epidural procedures, injections, nerve blocks
- Whether workers had active physical medicine services
### Evidence Of Increase In Other Care Due To Must-Access PDMPs For Back Cases

<table>
<thead>
<tr>
<th>Nature Of Care Measure</th>
<th>Neurologic Spine Pain</th>
<th>Spine Sprains And Strains</th>
<th>Other Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine Equivalent Amount Of Opioids</td>
<td>-13%**</td>
<td>-21%**</td>
<td>-13% to 10%</td>
</tr>
<tr>
<td>Number Of Non-Opioid Pain Medication Prescriptions</td>
<td>14%**</td>
<td>9%</td>
<td>6% to 21%</td>
</tr>
<tr>
<td>Any Intervenational Pain Management Services</td>
<td>5%*</td>
<td>1%</td>
<td>1% to 4%</td>
</tr>
<tr>
<td>Number Of Visits For Intervenational Pain Management Services</td>
<td>6%*</td>
<td>-5%</td>
<td>-5% to 3%</td>
</tr>
<tr>
<td>Any Active Physical Medicine Services</td>
<td>2%</td>
<td>1%</td>
<td>1% to 4%</td>
</tr>
<tr>
<td>Number Of Visits For Active Physical Medicine Services</td>
<td>-2%</td>
<td>1%</td>
<td>0% to 6%</td>
</tr>
</tbody>
</table>

Percentage change in outcome measure due to must-access prescriptions drug monitoring programs (PDMPs) by injury group. Estimates from state-level regression for claims at 12 months’ maturity. Sample includes all claims. *,**,*** Statistically significant at 5%, 1%, and 0.1% level, respectively.
Effects Of Policies On Duration Of Temporary Disability Benefits
Policies Had Little Effect On Duration Of Temporary Disability

<table>
<thead>
<tr>
<th>Policy Measure</th>
<th>Weeks of Temporary Disability Benefits Among Claims With More Than 7 Days Of Lost Time</th>
<th>Claims With More Than 7 Days Of Lost Time Among All Claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must-Access PDMP</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Limits On Initial Opioid Rx</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Mean Of Outcome Variable</td>
<td>13.3</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Percentage change in weeks of temporary disability benefits and whether workers had more than 7 days of lost time due to the policy. Estimates from state-level regression for claims at 12 months’ maturity. Sample includes claims with more than 7 days of lost time or all claims as indicated. *, **, *** Statistically significant at 10%, 5%, and 1% level, respectively.
Illustrating Effects Of Must-Access PDMPs
Comparing Three Policy Scenarios

• Scenario 1: No must-access PDMPs are adopted
• Scenario 2: Actual policy adoption
• Scenario 3: All states adopt must-access PDMPs in 2016
Policy Scenarios: Average MEA Would Be 19% Lower If All States Adopt MA-PDMP

Morphine Equivalent Amount of Opioids (mg) per Claim

12 months maturity for all claims. Predicted measures based on regression estimates.
Summary Of Findings

• Must-access PDMPs contributed to decrease in opioid use; mostly among low back and soft tissue injuries
• Limits on initial opioid prescriptions have little effect on whether workers received opioids, decreased amount of opioids among claims with opioids
• PDMPs resulted in more interventional pain management and non-opioid pain medications for neurologic spine pain cases
  • Little change in other type of care response to must-access PDMPs for other injuries
• Little change in duration of temporary disability
Thank You For Your Attention

- For comments/questions about the findings you can e-mail Bogdan Savych at bsavych@wcrinet.org
- The study we discussed today is available for purchase on our website www.wcrinet.org
- Please complete the survey that comes up when you exit this webinar
- Save the Date! WCRI’s 38th Annual Issues & Research Conference, March 16-17, 2022, in Boston, MA.
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