Colorado Public Safety and Public Health Information-Sharing

Leveraging Social, Behavioral, and Health Data

2018 COAP Grantees Meeting

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Colorado crisis: All Drugs

Figure 1. Age-adjusted drug overdose death rates, by involvement of specific drug types: Colorado residents, 1999-2017.
Colorado crisis: Opioids

Figure 2. Age-adjusted drug overdose death rates, by involvement of opioids (prescription and illicit): Colorado residents, 1999-2017.
Goal 1: Enhance public safety/behavioral health/public health/treatment partnerships to leverage key data sets to better understand Colorado’s opioid epidemic

- Objective 1.1: Increase public health surveillance of the opioids by linking PDMP data to various public health data sets
- Objective 1.2: Increase data sharing between public safety, behavioral health, and public health partners
Goal 2: Increase data driven responses to Colorado’s opioid epidemic

- **Objective 2.1:** Increase data dissemination among members of the Colorado Consortium for Prescription Drug Abuse Prevention

- **Objective 2.2:** Increase data-driven responses in high-risk counties related to the local drivers of opioid abuse and overdose
Goal 3: Assess the implementation of Colorado SB 18-22 on PDMP utilization and patient outcomes

- Objective 3.1: Evaluate the impact of Colorado Senate Bill 18-022 on prescriber behavior across Colorado

- Objective 3.2: Evaluate the impact of Colorado Senate Bill 18-022 on patient outcomes within the UCHealth system

5/21/18
CO SB 18-022 overview

1) Initial opioid prescription ≤ 7 days supply
2) May refill for 1 additional opioid rx ≤ 7 days supply
3) Required to check PDMP prior to 2\textsuperscript{nd} opioid prescription

<table>
<thead>
<tr>
<th>Not on opioids</th>
<th>Opioids Rx</th>
<th>Opioids no Rx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary prevention</td>
<td>Secondary prevention</td>
<td>Tertiary prevention</td>
</tr>
<tr>
<td>- Avoid exposure</td>
<td>- Avoid increased dose</td>
<td>- Identify</td>
</tr>
<tr>
<td>- Consider alternatives</td>
<td>- Avoid co-prescribing</td>
<td>- Initiate MAT</td>
</tr>
<tr>
<td>- Screen/risk stratification</td>
<td>- Screening for risk? MAT?</td>
<td>- Warm handoff</td>
</tr>
<tr>
<td>- Communication with patients</td>
<td>- Consider alternatives</td>
<td>- Harm reduction</td>
</tr>
<tr>
<td>- Avoid left over meds</td>
<td>- Communication with patients and providers</td>
<td></td>
</tr>
<tr>
<td>- Safe storage</td>
<td>- Don’t suddenly cut off</td>
<td></td>
</tr>
</tbody>
</table>

https://content.govdelivery.com/accounts/CODORA/bulletins/1f1efcc,
Why? Initial prescribing $\rightarrow$ future opioid use

Figure 1. One- and 3-year probabilities of continued opioid use among opioid-naive patients, by number of days’ supply* of the first opioid prescription — United States, 2006–2015

Figure 2. One- and 3-year probabilities of continued opioid use among opioid-naive patients, by number of prescriptions* in the first episode of opioid use — United States, 2006–2015

Why? Initial month → future opioid use

Table 2 Long-Term Opioid Use* in the Full Patient Cohort, by Number of Prescriptions Filled and Total Morphine Equivalents Dispensed in the Initiation Month

<table>
<thead>
<tr>
<th>Opioid prescriptions during initiation month</th>
<th>Number of patients</th>
<th>No. (%) who became long-term opioid users*</th>
<th>p value†</th>
<th>Odds ratio (95 % CI) adjusted for urban or rural residence and categorical age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of opioid prescriptions filled</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>429,597</td>
<td>12,559 (2.9 %)</td>
<td>&lt;0.0001</td>
<td>Reference</td>
</tr>
<tr>
<td>2</td>
<td>76,663</td>
<td>8156 (10.6 %)</td>
<td></td>
<td>2.25 (2.17, 2.32)</td>
</tr>
<tr>
<td>3</td>
<td>20,093</td>
<td>3351 (16.7 %)</td>
<td></td>
<td>2.60 (2.47, 2.73)</td>
</tr>
<tr>
<td>≥4</td>
<td>10,414</td>
<td>2719 (26.1 %)</td>
<td></td>
<td>3.21 (3.03, 3.40)</td>
</tr>
<tr>
<td>Morphine equivalents dispensed (MME)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–119</td>
<td>210,469</td>
<td>4141 (2.0 %)</td>
<td>&lt;0.0001</td>
<td>Reference</td>
</tr>
<tr>
<td>120–279</td>
<td>194,652</td>
<td>6832 (3.5 %)</td>
<td></td>
<td>1.43 (1.37, 1.49)</td>
</tr>
<tr>
<td>280–399</td>
<td>46,408</td>
<td>3223 (6.9 %)</td>
<td></td>
<td>2.24 (2.13, 2.36)</td>
</tr>
<tr>
<td>400–799</td>
<td>54,858</td>
<td>5683 (10.4 %)</td>
<td></td>
<td>2.98 (2.85, 3.13)</td>
</tr>
<tr>
<td>800–1599</td>
<td>21,759</td>
<td>4049 (18.6 %)</td>
<td></td>
<td>4.65 (4.40, 4.91)</td>
</tr>
<tr>
<td>1600–2399</td>
<td>5,202</td>
<td>1485 (28.5 %)</td>
<td></td>
<td>7.20 (6.66, 7.77)</td>
</tr>
<tr>
<td>2400–3199</td>
<td>2377</td>
<td>891 (37.5 %)</td>
<td></td>
<td>11.09 (10.06, 12.21)</td>
</tr>
<tr>
<td>3200–3999</td>
<td>1042</td>
<td>481 (46.2 %)</td>
<td></td>
<td>16.07 (14.07, 18.37)</td>
</tr>
</tbody>
</table>

*Long-term use defined as ≥ 6 opioid fills in the 12 months following the initiation month

Why? Momentum is difficult to stop

CO SB 18-022 **details**

- Initial opioid prescription ≤7 days supply
  - If the **prescriber** has not written an opioid rx in 12 mos
- May refill x 1 additional opioid prescription ≤7 days supply
  - **No further restrictions** after the 2\(^{\text{nd}}\) opioid rx
- Required to check PDMP prior to 2\(^{\text{nd}}\) opioid rx
  - Required to **enter specialty** when entering PDMP
- **Exc:** chronic pain (>90 days), cancer pain, palliative care, hospice, surgery with pain expected to last > 14 days
- **Inc:** MD/DO, NP, PA, dentist, optom, podiatry, veterinary
SB 18-022 Compliance

- “Failure to check the PDMP constitutes unprofessional conduct if the prescriber repeatedly fails to comply with this new PDMP requirement”

- “A violation of the new requirements does not constitute negligence or contributory negligence per se and does not create a private right of action or serve as the basis of a cause of action”

- No ability to actively monitor of compliance*
Evaluation 3.1: **Prescriber behavior**

- **Approach:**
  - Retrospective cohort, pre/post, all prescribers in CO PDMP
  - Prescribing to opioid naïve pts (12 mo w/o opioid)
  - Intervention: SB 19-022 (3/21/18)
- **Variables:** provider, specialty, zip code, prescription information
- **Comparison:** Prescribing before SB 18-022
- **Analysis plan:** Interrupted time series analysis
Evaluation 3.1: Prescriber behavior outcomes

- (1) Does the legislation change prescribing for acute pain in opioid naïve patients?
  - 1st opioid prescription ≤ 7 days, 2nd prescription for ≤ 7 days
- (2) Does the legislation change compliance with existing opioid prescribing guidelines?
  - Compliance with CDC opioid prescribing
- (3) Does law meant for acute pain management negatively impact patients with chronic pain treated with opioids?
  - For patients chronically on opioids: multiple provider episodes, overlapping prescriptions, or sudden decrease in opioid prescribing
UC Denver approved PDMP Data Flow for Research

**UC Denver**
- UCHealth Epic clinical patient level data + UID
- PHI + UID
- **UID = universal identifier**
- De-identified Epic + PDMP limited dataset for research

**PDMP Partners (CDPHE)**
- PDMP data set (2014-current)
- Patient matching
- PDMP data + UID

**Honest Broker (Compass)**
- Patient merging using UID
- 2nd level Data de-identification

**UCHealth 2018:**
- 3.4 million outpt visits/yr
- 130k admissions/yr
- 500k ED visits/yr
Evaluation 3.2: Patient specific

- **Approach:** Retrospective cohort, patient level EHR and PDMP data, after law
  - Opioid naïve patients receiving opioid rx in UCHealth primary care clinics
  - Intervention: SB 18-022
- **Variables:** PDMP use, patient characteristics available in EHR, PDMP controlled med information x 6 months after index visit
- **Comparison:** Patients receiving opioid rx not-complaint with law
- **Analysis plan:** Descriptive
Evaluation 3.2: Patient specific outcomes

• (1) Is SB 18-022 PDMP check associated with improved patient outcomes?
  • (a) Long-term opioid use in PDMP
  • (b) Aberrant opioid use in PDMP
  • (c) Chronic pain diagnosis in EHR
  • (d) SUD diagnosis in EHR

• (2) Does compliance with PDMP check and/or SB 18-022 have negative consequences for patients?
  • Repeat clinic visits and ED visits in UCHealth system between groups
  • Multiple provider episodes
  • Opioid prescriptions outside UCHealth system
Pros/Cons

• **Provider specific:**
  • **Pros:** large number, generalizable, reproducible
  • **Cons:** missing PDMP check data, missing provider specialty, may have multiple providers in same group, definitions, confounding

• **Patient specific:**
  • **Pros:** merge data → add PDMP checks and patient level clinical info
  • **Cons:** proxy patient outcomes, limited information re: visits outside system, confounding
Questions

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