Quality of Care and Patient Outcomes following Discontinuation of Long-term Opioid Therapy in High-Risk Patients

Travis Lovejoy, PhD, MPH
Center to Improve Veteran Involvement in Care,
VA Portland Health Care System
Department of Psychiatry,
Oregon Health & Science University
Disclosures and Conflicts of Interest

I have no financial, personal, or other relationships that would cause conflicts of interest with the information reported here.
Overview

- Trends in opioid prescribing
- Factors that lead to opioid taper and discontinuation
- Potential unintended negative consequences of discontinuation
- Results of recently completed work
- Future directions
Figure 1. Opioid Prescriptions Dispensed in the U.S. Annually, 1992-2016.

Veterans Dispensed at Least 1 Opioid Medication in the VA Health Care System, and Percent of Opioid Recipients With Concurrent Benzodiazepine Prescriptions and High Opioid Dosage

Veterans Dispensed at Least 1 Opioid Medication in the VA Health Care System, and Percent of Opioid Recipients With Concurrent Benzodiazepine Prescriptions and High Opioid Dosage

Why might this be?
Clinical practice guidelines (VA/DoD, CDC, APS/AAPM)

VA/DoD CLINICAL PRACTICE GUIDELINE FOR OPIOID THERAPY FOR CHRONIC PAIN

GUIDELINE FOR PRESCRIBING OPIOIDS FOR CHRONIC PAIN

IMPROVING PRACTICE THROUGH RECOMMENDATIONS

CDC's Guideline for Prescribing Opioids for Chronic Pain is intended to improve communication between providers and patients about the risks and benefits of opioid therapy for chronic pain, improve the safety and effectiveness of pain treatment, and reduce the risks associated with long-term opioid therapy, including opioid use disorder and overdose. The Guideline is not intended for patients who are in active cancer treatment, palliative care, or end-of-life care.
Greater awareness of the opioid “epidemic” through media portrayals

“Following peak media attention in the United States, the prescribing of oxycodone extended release slowed.”
“Treatment with opioids was not superior to treatment with nonopioid medications for improving pain-related function over 12 months.”
Significant risk of adverse harms

“…increased risk for overdose, opioid abuse, fractures, myocardial infarction, and markers of sexual dysfunction.”
Prescription Drug Monitoring Programs (PDMPs)

• In 2013, the VA began allowing clinicians to query state PDMPs for VA patients.¹

• Current VA policy mandates PDMP queries for any new controlled prescriptions and/or at least quarterly for prescription refills.

¹ US Federal Register, 2013.
Local, state, and national initiatives to promote safer opioid prescribing

Impact of the Opioid Safety Initiative on opioid-related prescribing in veterans
Lewei A. Lin\textsuperscript{a,*}, Amy S.B. Bohnert\textsuperscript{a,b}, Robert D. Kerns\textsuperscript{c}, Michael A. Clay\textsuperscript{d}, Dara Ganoczy\textsuperscript{b}, Mark A. Ilgen\textsuperscript{a,b}

PAIN 158 (2017) 833–839
© 2017 International Association for the Study of Pain
http://dx.doi.org/10.1097/j.pain.0000000000000837
High-dose opioids, > 200 MMED
Co-prescribed opioids and benzodiazepines
Favorable outcomes following opioid taper and discontinuation

*Annals of Internal Medicine*

**Patient Outcomes in Dose Reduction or Discontinuation of Long-Term Opioid Therapy**

*A Systematic Review*

Joseph W. Frank, MD, MPH; Travis I. Lovejoy, PhD, MPH; William C. Becker, MD; Benjamin J. Morasco, PhD; Christopher J. Koenig, PhD; Lilian Hoffecker, PhD, MLS; Hannah R. Dischinger, BS; Steven K. Dobscha, MD; and Erin E. Krebs, MD, MPH

- Systematic review
  - 36 studies that assessed pain intensity outcome, 17 functioning, and 12 quality of life

- Among fair quality studies, opioid dose reduction was associated with reduced pain intensity and improved functioning and quality of life
So what could go wrong?
Drugs Involved in U.S. Overdose Deaths, 1999 to 2017

- Synthetic Opioids other than Methadone, 29,406
- Heroin, 15,958
- Natural and semi-synthetic opioids, 14,958
- Cocaine, 14,556
- Methamphetamine, 10,721
- Methadone, 3,295

CIVIC
Center to Improve Veteran Involvement in Care
Managing pain with non-opioid substances

"People are using marijuana as a pain blocker. All my buddies are shifting to marijuana."

- Veteran describing alternative pain treatment following discontinuation

“The mandated transition to limit use of opioids, paired with the current climate around liberalizing cannabis, may lead to patients’ formal and informal substitution of cannabis for opioids.”
Shifting opioid prescribing burdens to other systems of care

Prevalence of Dual VA/non-VA Prescriptions, 2014-2016

- Among 5,882 Veterans that received VA Opioids, Benzodiazepine, or Non-Benzodiazepine Sedative Hypnotics:
  - 35% had received these medications from non-VA pharmacies at any time
  - 17% had received these medications concurrently

<table>
<thead>
<tr>
<th>VA Prescription Drug Class*</th>
<th>Opioids n=4,385</th>
<th>Benzodiazepines n=1,649</th>
<th>Non-benzodiazepines n=1,626</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concurrent Prescription Drug Class*</td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Non-VA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opioids</td>
<td>661 (15.1%)</td>
<td>236 (13.7%)</td>
<td>218 (13.4%)</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>126 (2.9%)</td>
<td>145 (8.8%)</td>
<td>53 (3.3%)</td>
</tr>
<tr>
<td>Non-benzodiazepines</td>
<td>34 (0.8%)</td>
<td>22 (1.3%)</td>
<td>74 (4.6%)</td>
</tr>
</tbody>
</table>

IIR 15-091; PI Carlson; Use of a Prescription Drug Monitoring Program to Evaluate Concurrent VA and non-VA Opioid Prescriptions
Maximum Daily Concurrent MMEDs among Veterans on LTOT and non-VA Opioids

IIR 15-091; PI Carlson
Disengage from care

19% of regular VA users disengaged from VA care following discontinuation of long-term opioid therapy.
Negatively impact relationships between patients and members of their clinical care teams

“[I was told about my discontinuation in an] email, not even a phone call. This is not how you taper off long-term opiate users. You should call them in, talk to them, develop a plan for tapering.”

- Veteran describing opioid discontinuation process
Study of opioid discontinuation in Veterans with and without substance use disorders

- Retrospective electronic medical record review and administrative data abstraction
- Cohort of Veterans prescribed opioids through VA in 2011
- Discontinued LTOT in 2012
- Randomly sampled 300 with SUD diagnosis
- Propensity score matched 300 without SUD diagnosis
### Likelihood of LTOT discontinuation between patients with and without SUD, n = 600

<table>
<thead>
<tr>
<th>Discontinuation Reason</th>
<th>SUD, % (n)</th>
<th>No SUD, % (n)</th>
<th>Unadjusted odds ratio (95% confidence interval)</th>
<th>Adjusted odds ratio (95% confidence interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberrant behaviors</td>
<td>70% (211)</td>
<td>57% (171)</td>
<td>1.79 (1.28-2.51)*</td>
<td>1.93 (1.34-2.80)*</td>
</tr>
<tr>
<td>Known or suspected substance abuse</td>
<td>52% (157)</td>
<td>35% (105)</td>
<td>2.04 (1.47-2.83)*</td>
<td>2.26 (1.58-3.22)*</td>
</tr>
<tr>
<td>Aberrant urine drug test</td>
<td>39% (118)</td>
<td>35% (105)</td>
<td>1.20 (0.86-1.68)</td>
<td>1.21 (0.85-1.73)</td>
</tr>
<tr>
<td>Opioid misuse</td>
<td>18% (53)</td>
<td>13% (39)</td>
<td>1.44 (0.92-2.25)</td>
<td>1.31 (0.80-2.14)</td>
</tr>
<tr>
<td>Nonadherence to pain plan of care</td>
<td>9% (27)</td>
<td>14% (41)</td>
<td>0.63 (0.37-1.05)</td>
<td>0.59 (0.33-1.04)</td>
</tr>
<tr>
<td>Known or suspected opioid diversion</td>
<td>5% (14)</td>
<td>2% (7)</td>
<td>2.05 (0.82-5.15)</td>
<td>1.65 (0.61-4.48)</td>
</tr>
</tbody>
</table>

N = 509 patients discontinued from LTOT by the opioid-prescribing clinician

<table>
<thead>
<tr>
<th>Referral Type</th>
<th>Percentage (Number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received an opioid taper</td>
<td>15% (74)</td>
</tr>
<tr>
<td>Prescribed non-opioid analgesic medication</td>
<td>45% (225)</td>
</tr>
<tr>
<td>Referred for non-pharmacologic pain treatment</td>
<td>58% (296)</td>
</tr>
<tr>
<td>Referred for complementary and integrative pain therapies</td>
<td>25% (125)</td>
</tr>
<tr>
<td>Referred for specialty mental health treatment</td>
<td>65% (330)</td>
</tr>
<tr>
<td>Referred for specialty SUD treatment</td>
<td>34% (175)</td>
</tr>
</tbody>
</table>
Discontinuation following aberrant UDTs

LTOT discontinuation due to a positive urine drug test

- Cannabis: N = 96
- Cocaine: N = 44
- Non-Rx Opioids: N = 20
- Amphetamines: N = 19
- Other Substances: N = 17

Likelihood of SUD treatment referral and engagement following substance-related LTOT discontinuation

<table>
<thead>
<tr>
<th>Substance leading to discontinuation</th>
<th>Unadjusted OR (95% CI)</th>
<th>Adjusted OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Association with SUD treatment clinician referral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis</td>
<td>0.53 (0.28–0.98)</td>
<td>0.44 (0.23–0.84)</td>
</tr>
<tr>
<td>Cocaine</td>
<td>2.73 (1.35–5.53)</td>
<td>3.32 (1.57–7.06)</td>
</tr>
<tr>
<td><strong>Association with SUD treatment engagement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis</td>
<td>0.53 (0.25–1.13)</td>
<td>0.42 (0.19–0.94)</td>
</tr>
<tr>
<td>Cocaine</td>
<td>1.76 (0.78–3.94)</td>
<td>2.44 (1.00–5.96)</td>
</tr>
</tbody>
</table>

*Adjusted models controlled for age, gender, race, pre-discontinuation mental health diagnosis, and pre-discontinuation SUD diagnosis.
0-10 Numeric Rating Scale Pain Intensity Score

- Subclinical Pain (30.0%; Slope = -0.010)
- Mild Pain (16.2%; Slope = -0.035)
- Moderate Pain (26.7%; Slope = -0.045)
- Severe Pain (27.1%; Slope = -0.015)

Time (in months)
OR (95% CI)

Average pre-discontinuation pain intensity 1.29 (1.24–1.33)

Higher MEDD 1.01 (1.00–1.02)

Patient-initiated discontinuation 0.70 (0.57–0.86)
Suicidal ideation and suicidal self-directed violence in patients discontinued from LTOT by the opioid-prescribing clinician

New onset suicidal ideation or suicidal self-directed violence following LTOT discontinuation by the opioid-prescribing clinician, n = 509

<table>
<thead>
<tr>
<th>Mental health diagnoses</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressive disorder</td>
<td>0.93 (0.38–2.31)</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>0.28 (0.03–2.37)</td>
</tr>
<tr>
<td>PTSD</td>
<td>3.78 (1.41–10.14)*</td>
</tr>
<tr>
<td>Other anxiety disorders</td>
<td>1.06 (0.43–2.60)</td>
</tr>
<tr>
<td>Psychotic-spectrum disorders</td>
<td>6.72 (1.73–26.17)*</td>
</tr>
<tr>
<td>Substance use disorder diagnosis</td>
<td>0.86 (0.39–1.87)</td>
</tr>
<tr>
<td>Prescribed benzodiazepine in the year prior to discontinuation</td>
<td>0.73 (0.21–2.59)</td>
</tr>
<tr>
<td>Average MEDD in the year prior to discontinuation</td>
<td>1.00 (1.00–1.01)</td>
</tr>
</tbody>
</table>
Limitations

- Data obtained exclusively from the electronic medical record likely underestimates prevalence of some clinical phenomena (e.g., SI, SUD)
- Focused on patients at risk of discontinuation due to aberrant behaviors (SUD and matched controls)
- Patient experiences with the opioid discontinuation process is unknown
- Pain and other care received outside of the VA is unknown
Future Directions – HSR&D IIR

• Establish a cohort of ~1,200 Veterans on LTOT, randomly sampled from all VA patients (oversample women and racial/ethnic minority patients)

• Survey every 6 months for 2 years – patient outcomes, treatment utilization

• Identify discontinuation and conduct additional longitudinal qualitative and quantitative assessments about opioid discontinuation experiences

• Partner with VHA Primary Care Operations and VHA Pain Management
Other Future Directions

- Examine the association between opioid taper and discontinuation with suicide outcomes
- Explore transitions to non-VA opioid and cannabis use following discontinuation of LTOT
- Test the effectiveness of collaborative pain (and SUD) care for patients discontinued from LTOT due to aberrant behaviors
Conclusions

• Opioid taper and discontinuation will continue

• There may be unintended negative consequences of universal policies that promote opioid taper and discontinuation

• One size probably doesn’t fit all

• We know little about who will “successfully” discontinue LTOT and what resources and care practices best support these patients
Acknowledgments

• Collaborators
  • Steven Dobscha, MD
  • Benjamin Morasco, PhD
  • Sterling McPherson, PhD
  • Joe Frank, MD, MPH
  • Mark Ilgen, PhD
  • Shannon Nugent, PhD
  • Jessica Wyse, PhD
  • Michael Demidenko, BS
  • Thomas Meath, MPH
  • Julia Holloway, BS
  • Crystal Lederhos Smith, MS

• Funding
  • Locally Initiated Project Award # QLP 59-048 (PI: Lovejoy) from the United States (U.S.) Department of Veterans Affairs Substance Use Disorder Quality Enhancement Research Initiative
  • VA Career Development Award IK2HX001516 from the U.S. Department of Veterans Affairs Health Services Research and Development (PI: Lovejoy).
  • VA Merit Review I01HX002518 from the U.S. Department of Veterans Affairs Health Services Research and Development (PI: Lovejoy).