

# Behavior and Beyond: The Impact of Provider Behavior on Workers' Comp Costs

Reports from an ongoing collaboration

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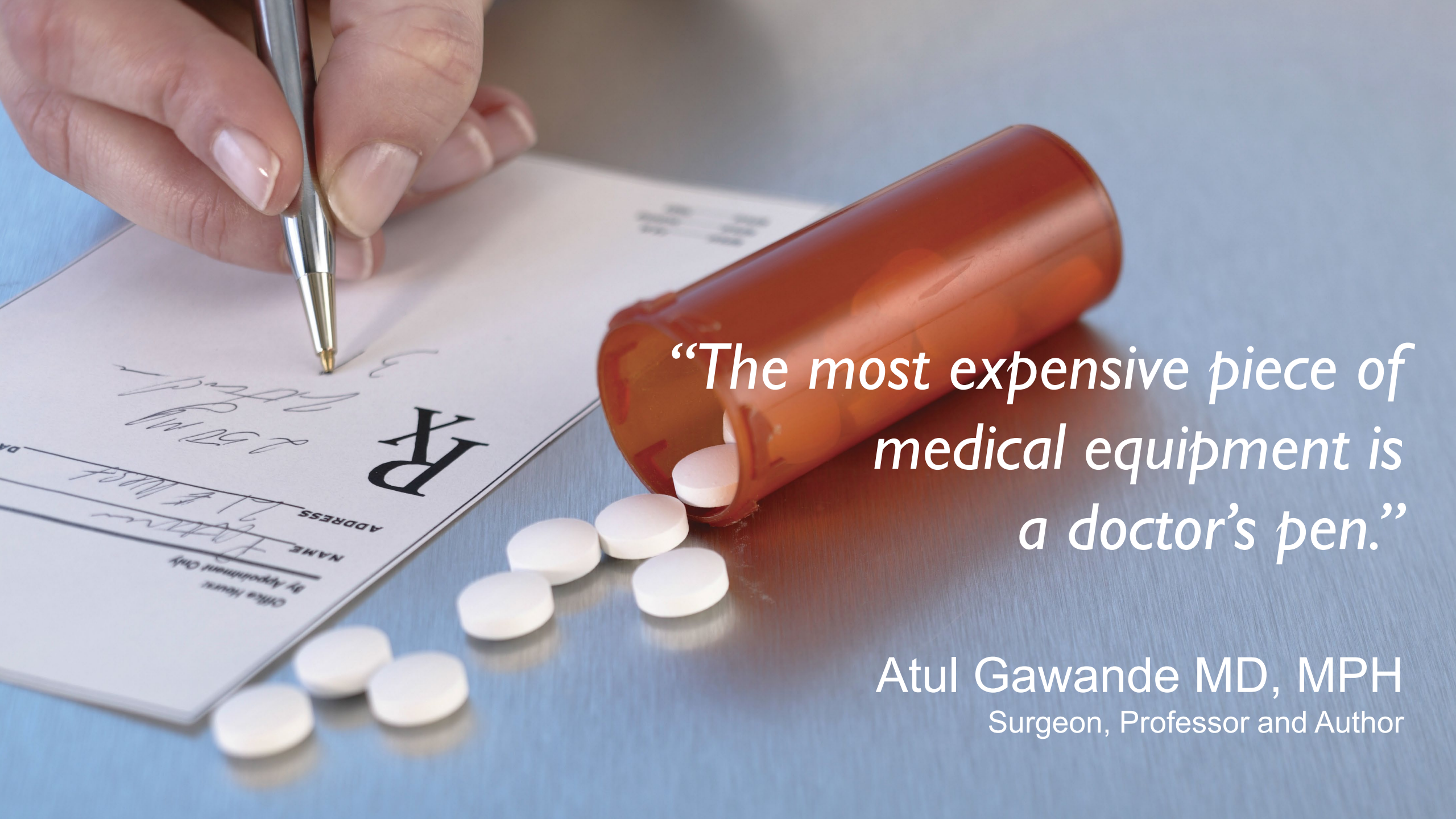
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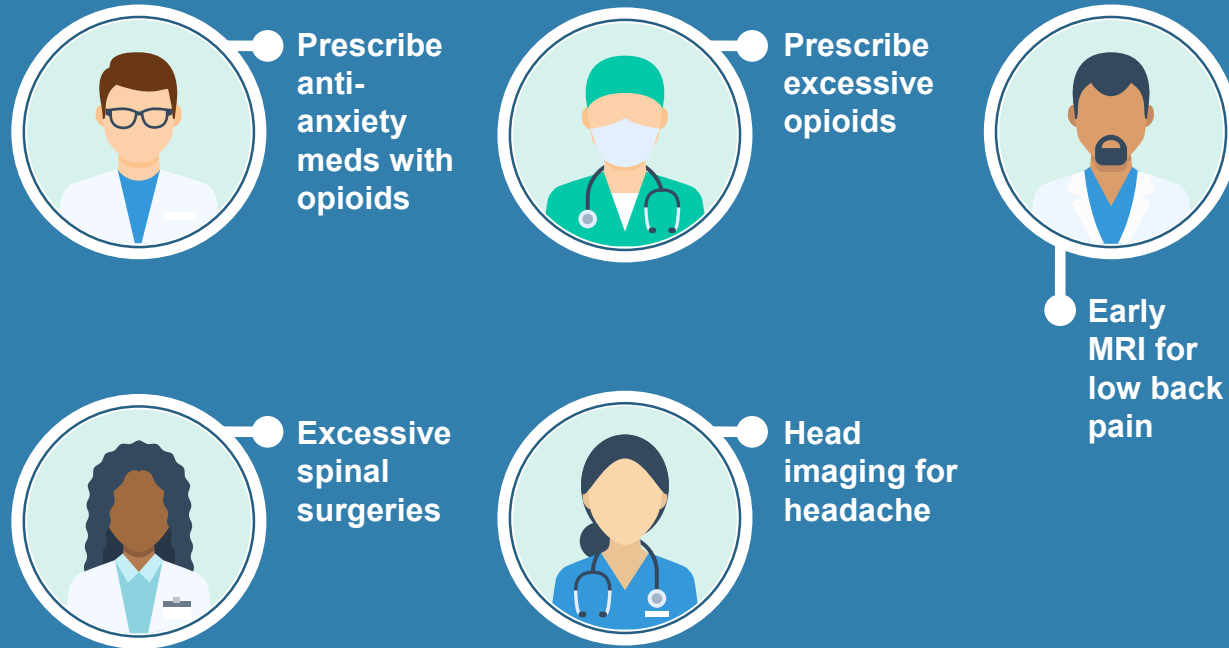


*“The most expensive piece of medical equipment is a doctor’s pen.”*

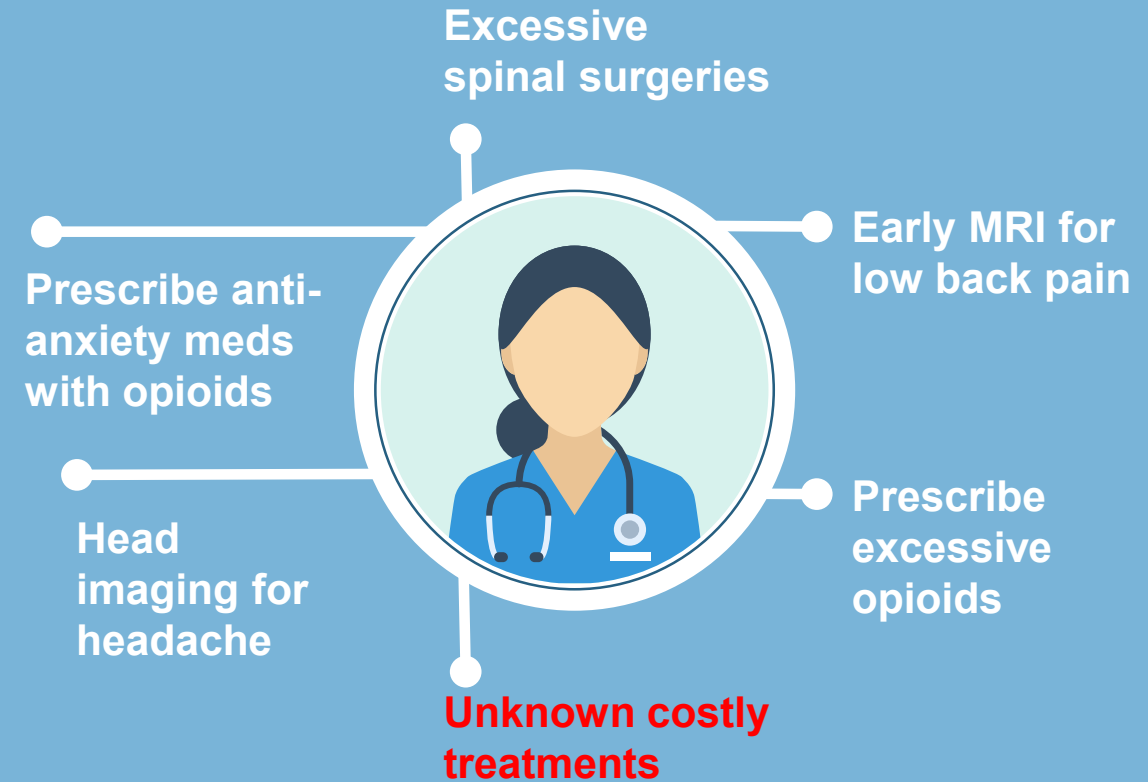
Atul Gawande MD, MPH  
Surgeon, Professor and Author

# PROVIDERS' BEHAVIOR AND LOW-VALUE CARE

## Scenario I:



## Scenario II:



# OUR APPROACH FOR EXAMINING PROVIDERS' BEHAVIOR

**Case study:**  
Costly Treatment #1



**Case study:**  
Costly Treatment #2



**Case study:**  
Costly Treatment #3



## Top 50 Doctors Providing Excessive Costly Treatment #1



Costly treatment #1



Costly treatment #2



Costly treatment #3



Unknown costly treatments

A new set of potential  
leading cost indicators



# CASE STUDY 1

## COSTLY TRAMADOL

- A weak opioid analgesic to treat moderate to severe pain
  - Its effectiveness in relieving pain is unclear
- Abuse potential



The most costly opioids frequently prescribed in California's workers' comp system (2012-2018):

**24%**  
of all opioid  
prescriptions

**39%**  
of all opioid  
payments

Source: World Health Organization. Critical Review Report: Tramadol. November 2018; WCIRB Medical Transaction Data

# COSTLY TRAMADOL EXTENDED-RELEASE 150 MG

- *Not* on the regulated price list
- Brand name drug
- Limited medical advantage (though sometimes more convenient)
- Compare to other low-cost substitutions (e.g., immediate-release 50 mg):
  - Cost per morphine milligrams equivalent (MME): 2-8X more
- One 150 mg vs. three 50 mg:
  - \$2.4 million more between 2012-2018

Source: WCIRB Medical Transaction Data

**10%**  
of all tramadol  
prescriptions

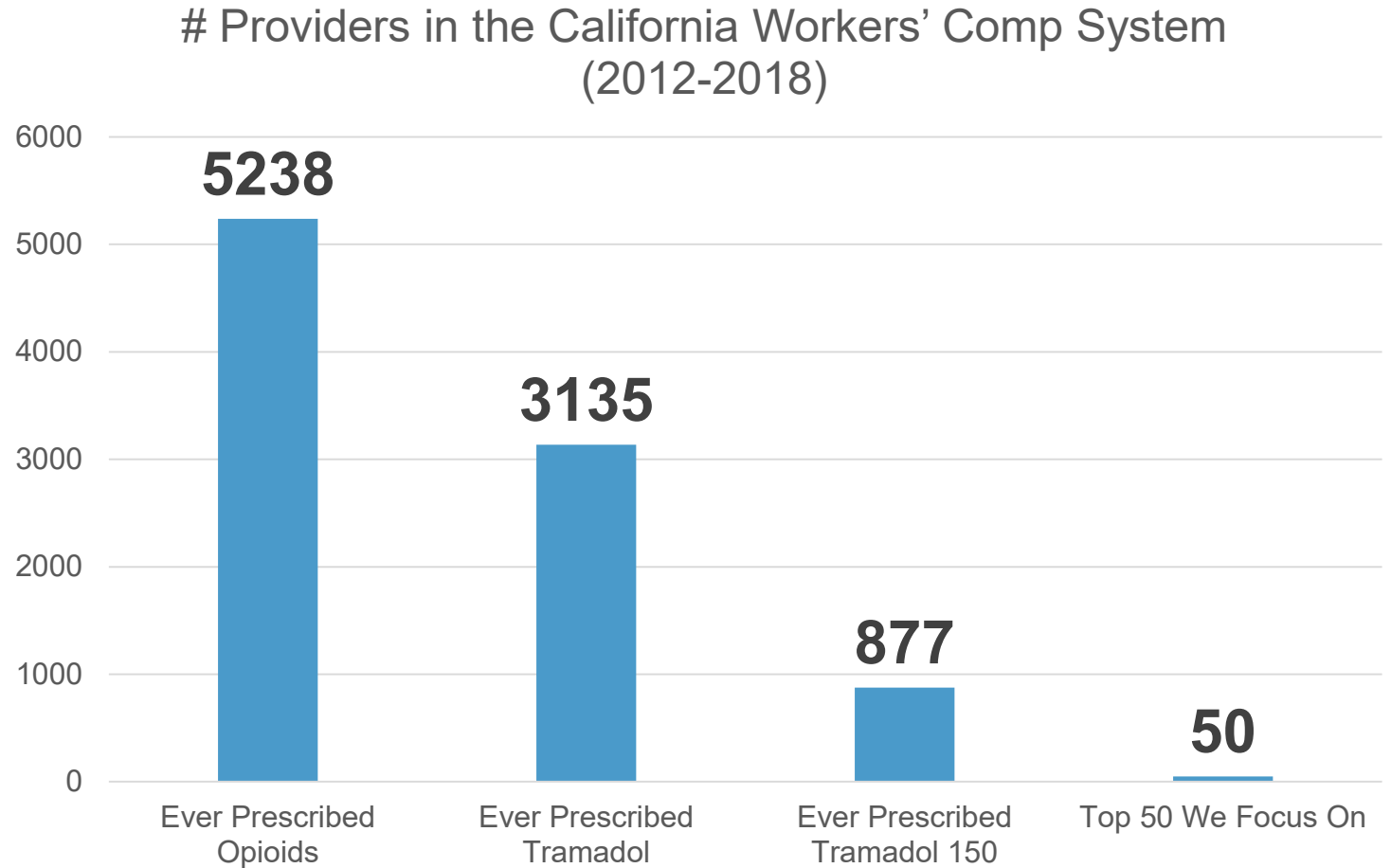
**57%**  
of all tramadol  
payments





# ONLY A FRACTION OF PROVIDERS PRESCRIBE TRAMADOL 150

- 1 in 3 providers who prescribed tramadol prescribed tramadol 150
- Top 50 prescribers of tramadol 150:
  - ~70% of all tramadol 150 prescriptions
  - 93% of all tramadol 150 payments



Source: WCIRB Medical Transaction Data



# OTHER FORMS OF LOW-VALUE CARE

- Co-prescribe opioids and benzodiazepines (anti-anxiety and muscle relaxants)
- Early MRI for low back pain (first 6 weeks)
- Spinal injection for low back pain
- Costly generic NSAIDs
- Costly brand name drugs when generic substitutions are available

## Common Benzodiazepines

Ativan



Halcion



Klonopin



Rohypnol



Valium

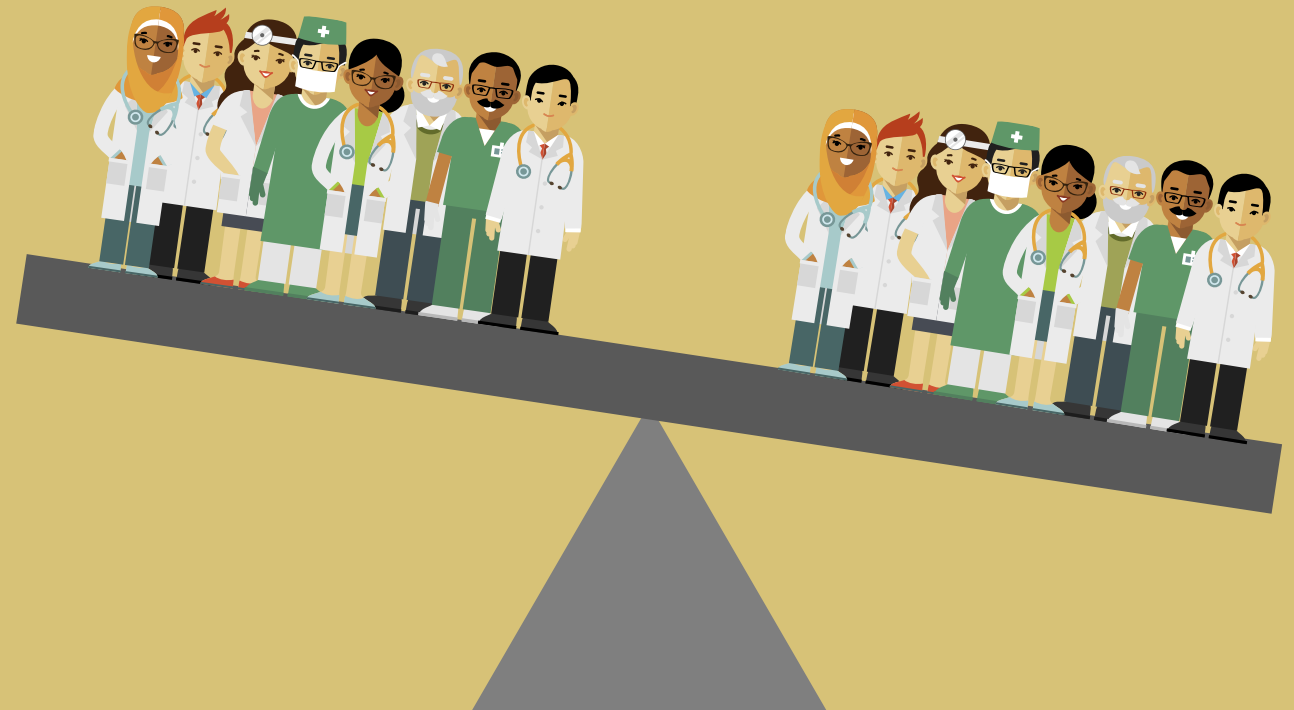


Xanax



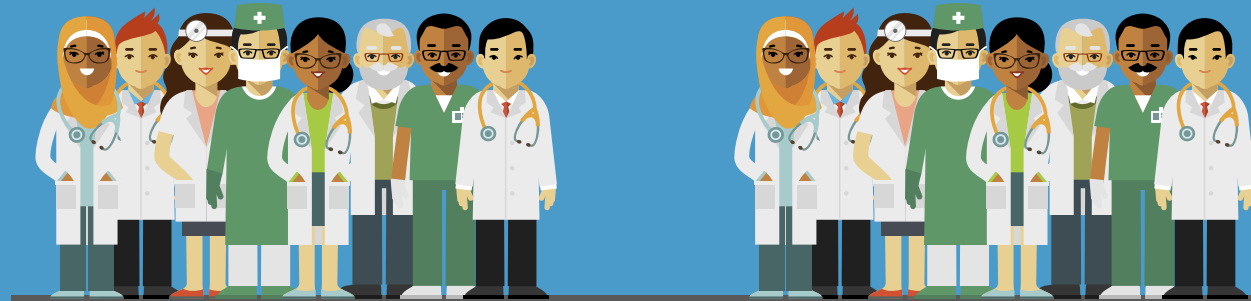
# METHODOLOGICAL CONCERN

- We cannot compare the top 50 prescribers of tramadol 150 with the rest of the workers' comp system
- The top 50 prescribers may have patients with more severe injuries



# METHODOLOGICAL SOLUTION

- Find comparison providers whose patients have similarly severe injuries as the top 50 prescribers
- We use the predicted opioid MME for each patient after 90 days (given the diagnosis and treatment during the first 90 days, etc.) to measure “severity”
- We compare each of the top 50 prescribers to 2 matched providers whose patients have similarly severe injuries



# MATCHING THE TOP PRESCRIBERS OF COSTLY TRAMADOL TO A COMPARABLE CONTROL GROUP

## Top 50 Prescribers of the Costly Tramadol



- Concentrated in a few specialties
- Tended to practice in LA basin
- Average 2400 predicted MME per patient

vs.

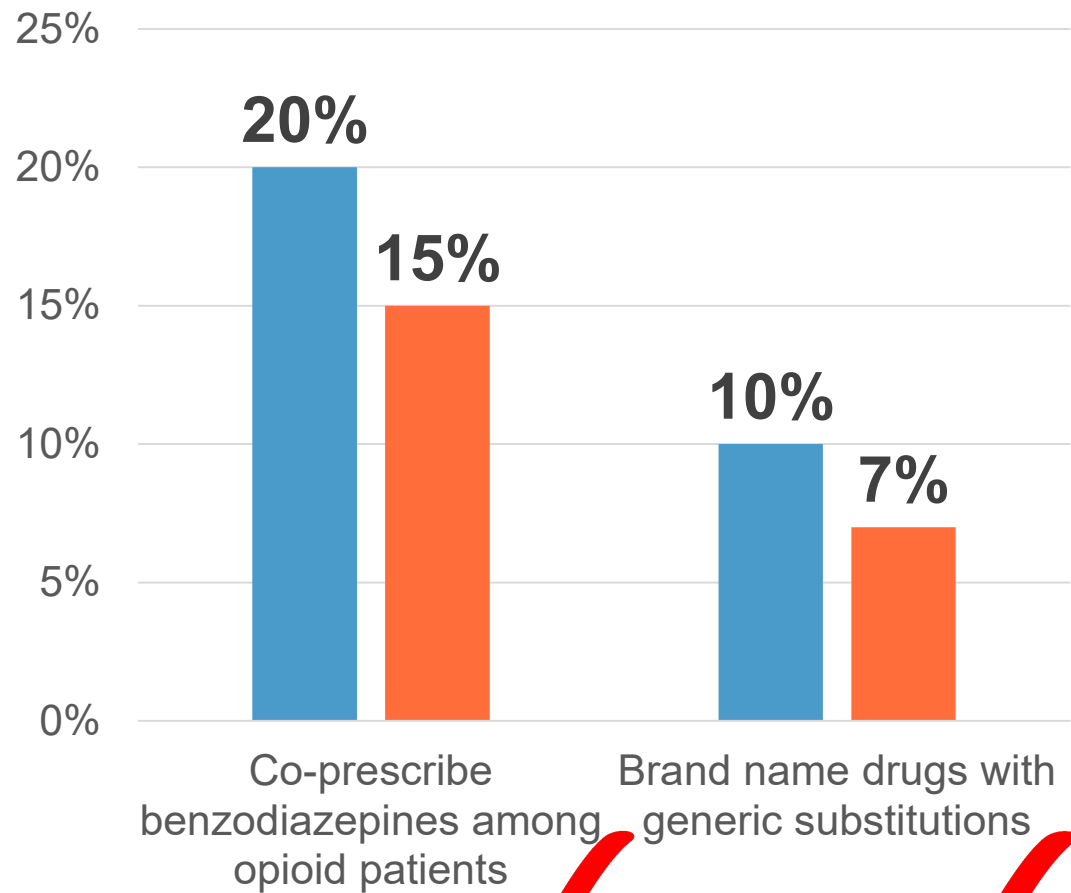
## 100 Matched Prescribers



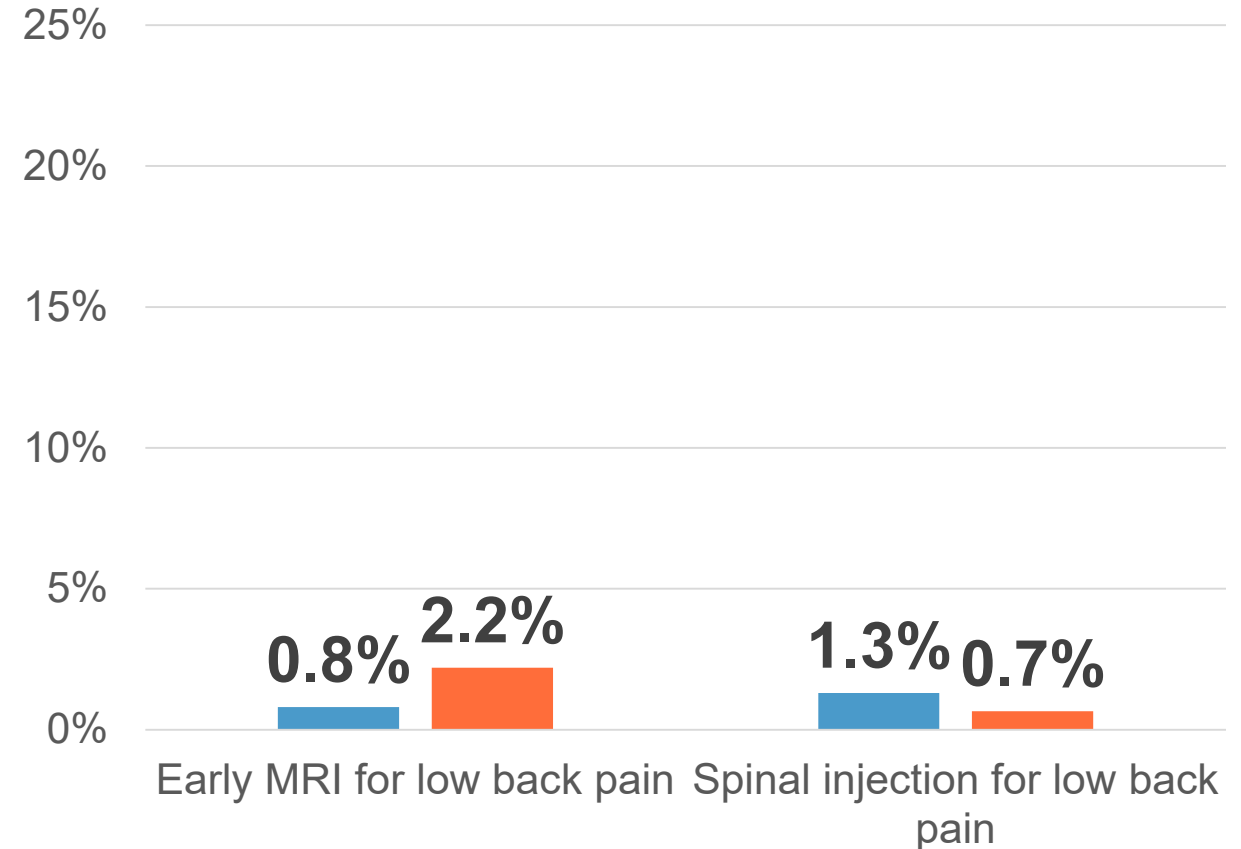
- Concentrated in similar specialties
- Tended to practice in similar regions
- Similar amount of predicted MME per patient



# % OF PATIENTS RECEIVING LOW-VALUE CARE FOR Top 50 Prescribers of Costly Tramadol vs. 100 Matched Prescribers



Source: WCIRB Medical Transaction Data



# Next Steps



# MORE FORMS OF LOW-VALUE CARE

## Brand name vs. generics:

- Use branded drugs of other types when generics are available

## High-risk use of opioids:

- High doses or long duration of opioids
- Prescribe opioids before trying NSAIDs
- Co-prescribe stimulants or depressants with opioids

## Others:

- Head imaging for uncomplicated headaches
- Back surgery

## Generic



## Brand-Name



# ENGAGE PARTNERS WHO DO A LOT OF LOW-VALUE CARE?

## Pharmacies that:

- Dispensed a high % of branded drugs when there are generics
- A high % of patients receive high-dose opioids

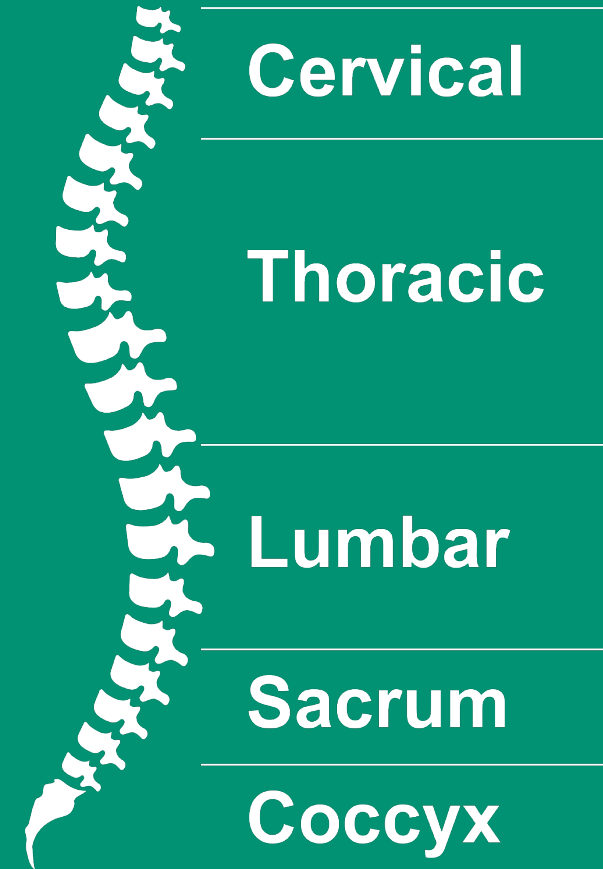
## Imaging centers with:

- Many early back MRI
- Many scans for uncomplicated headache

## Chiropractors who:

- Often treat 5 regions of the spine
- Often bill workers' comp for > 10 visits / year

Etc.

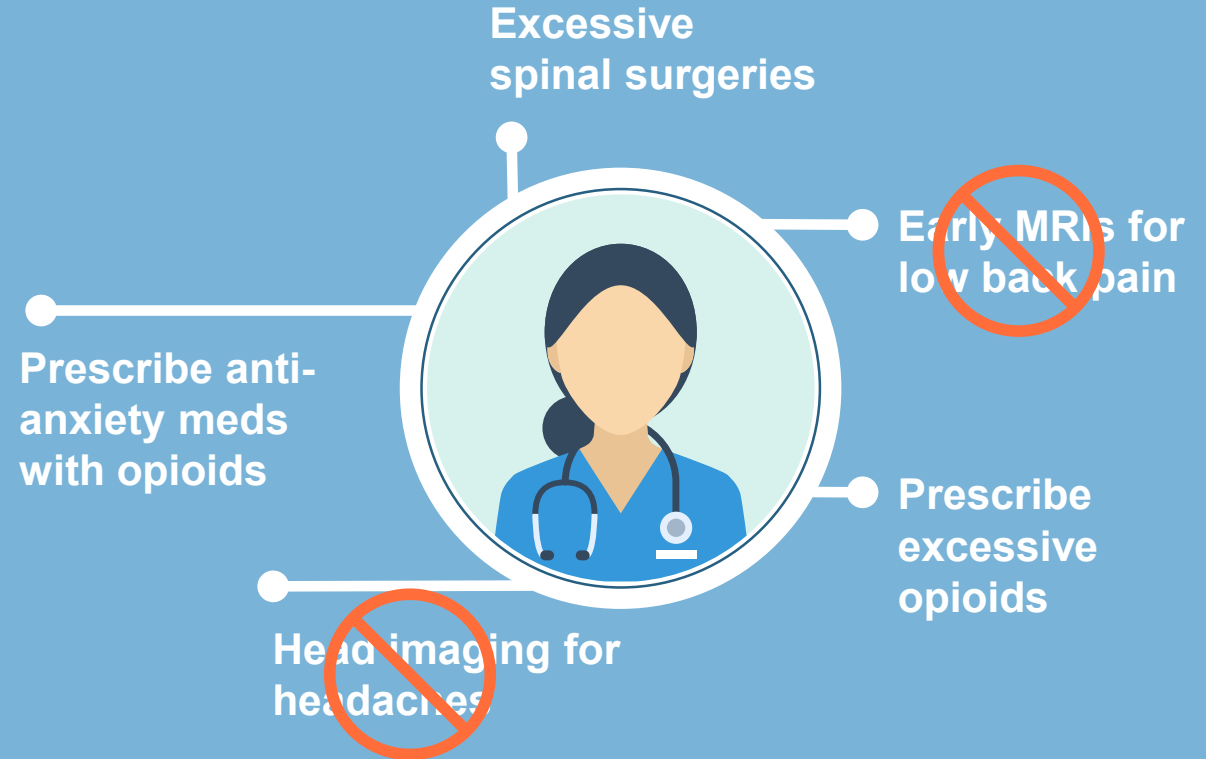




## MORE CASE STUDIES

- Identify high users of each form of care (early MRI, etc.) and see which predict high back injections, etc.
- Unify the results to identify clusters of providers who are consistently high on a set of low-value care

## Potential cluster we might find (illustrative)



Perhaps a 2<sup>nd</sup> cluster of providers does a lot of scans for both early low back pain & for headaches