



# Access and Disparities in Comprehensive Pain Management for Chronic Low Back Pain

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# Some definitions

## **Chronic pain management**

Medications or treatments received to treat chronic pain

## **Comprehensive pain management**

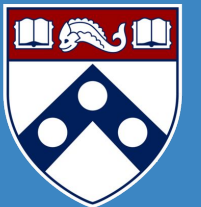
Methods used to address chronic pain that deviate from the most common treatment (opioids)

## **Chronic pain**

In this study: 2 diagnoses more than 90 days apart.

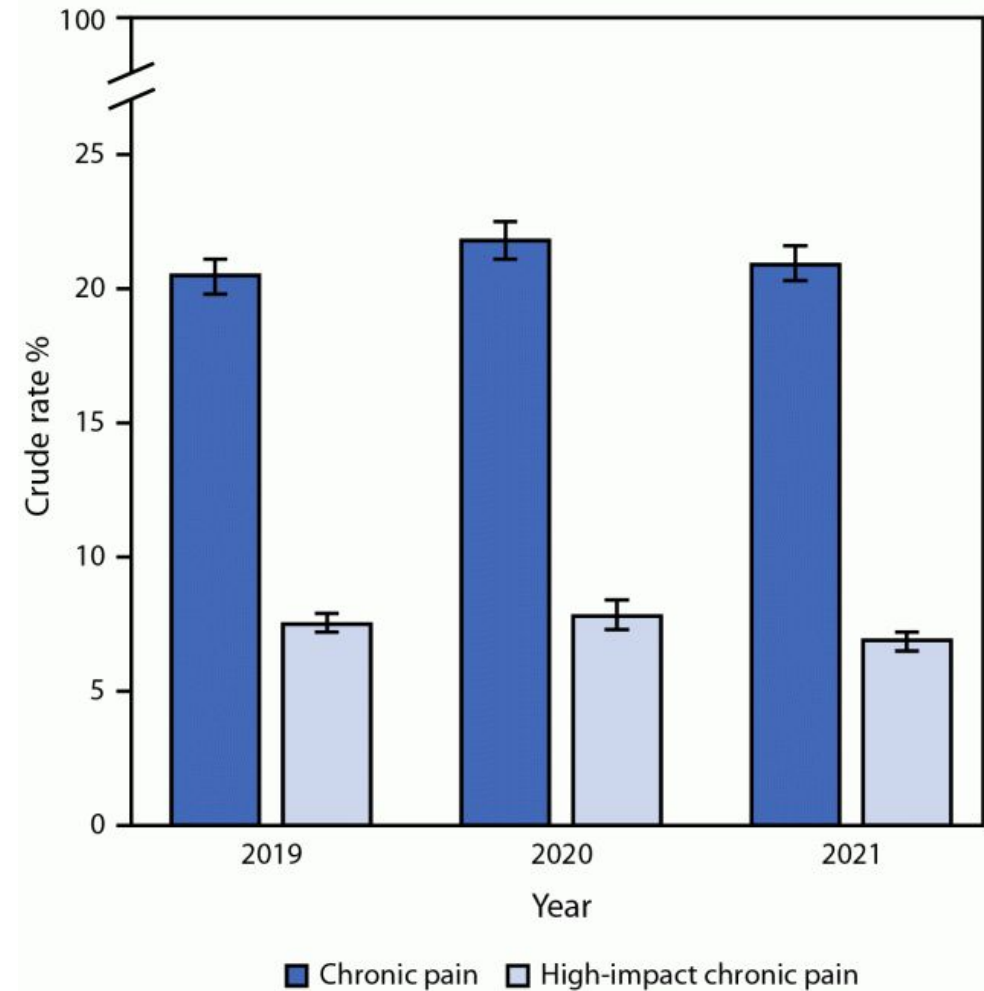
AKA: Prolonged or constant episodes of pain through a significant amount of time.

# Overview and Significance



# Chronic pain is an epidemic in the United States.

- Chronic pain is the leading cause of disability worldwide.
- 1 in 5 adults experience chronic pain, and 1 in 10 experience high impact chronic pain.

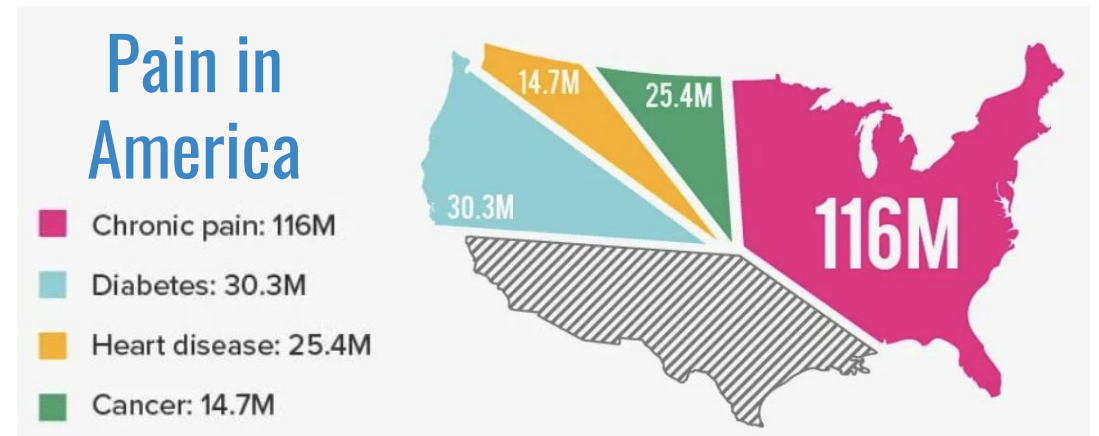
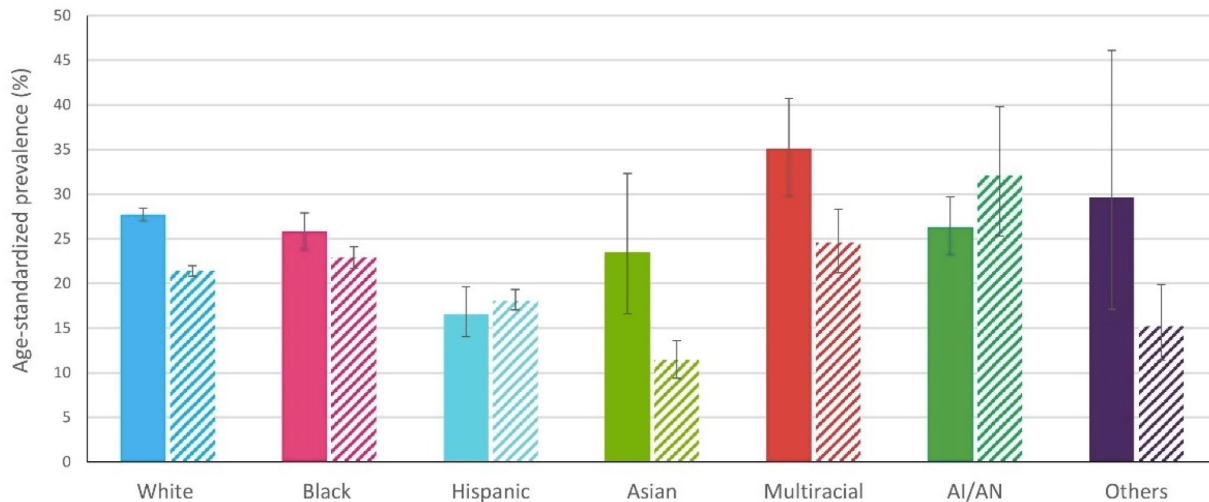


# Chronic pain has huge and multifaceted effects.

→ Economic burden of chronic pain are higher than those of heart disease, cancer, and diabetes, combined.

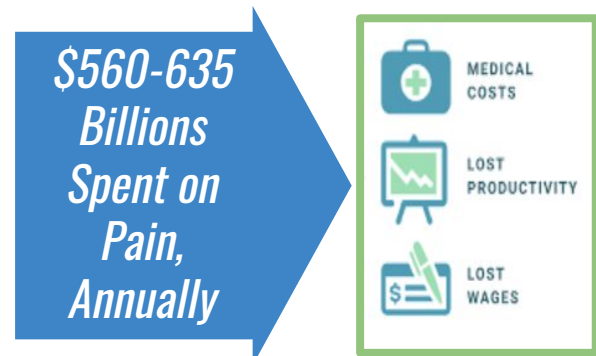
◆ Chronic pain is has multifaceted causes and effects.

→ Disparities in outcomes exist



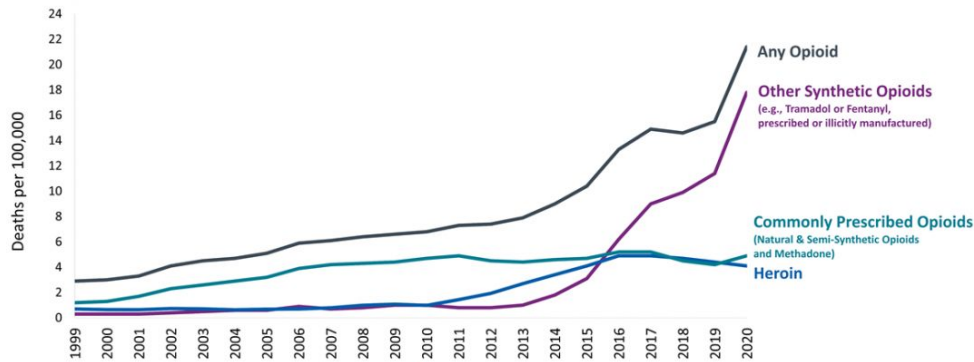
**Total Costs of Work Absenteeism Because of Selected Pain Conditions (in millions)**

Conditions	Population	Model 1	Model 2	Model 3
Moderate <u>Pain</u>	14.1	\$2,643	\$2,541	\$2,540
Severe <u>Pain</u>	15.6	6,476	7,330	7,196
Joint <u>Pain</u>	49.1	2,401	1,999	1,983
Arthritis	32.9	105	40	19
Functional Disability	14.9	—	919	898
<b>Total</b>	<b>69.8</b>	<b>\$11,625</b>	<b>\$12,728</b>	<b>\$12,635</b>



# Overreliance on opioids is a root cause of the epidemic.

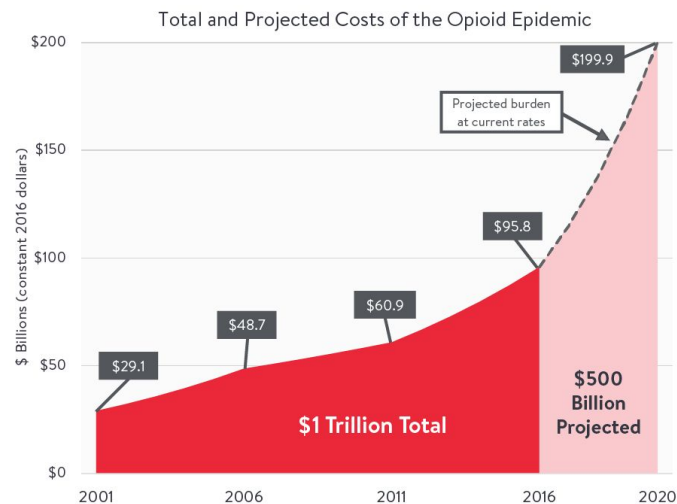
Opioid overdose deaths



→ Opioids are used to treat acute pain, given high effectiveness and addictiveness.

→ Its prescriptions to treat *chronic* pain increased addiction of many to opioids, underlying the epidemic.

→ Opioid epidemic is another big burden implied by chronic pain.



**Safe and effective treatments for chronic pain management are needed!**

# The opioids to comprehensive pain management transition is not simple.

## 3 MAIN REASONS

Health services research around pain management is limited, overwhelmingly focusing on opioids and the gap between white and black patients.



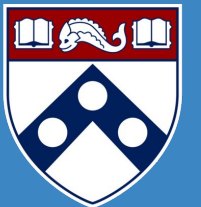
This transition exacerbates disparities, as 1) chronic pain disproportionately affects minorities and 2) other treatments are less accessible to them.



Insurance is acknowledged as the principal cause of disparities in comprehensive pain management.



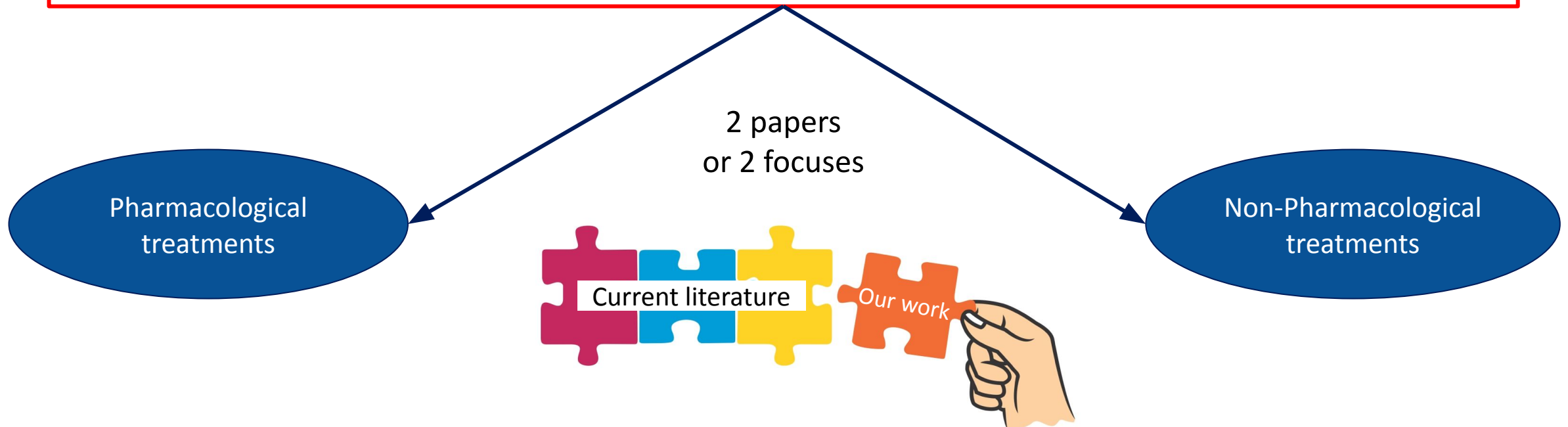
# Aims





# Disparities in Comprehensive Pain Management

Aim: To examine trends in the utilization of comprehensive chronic low back pain (CLBP) care in the U.S., and how utilization differs across demographic and socioeconomic groups.



# Analyzed treatments

## Pharmacological treatments

Muscle relaxers

Non-steroidal anti-inflammatory drugs (NSAIDs)

Gabapentinoids

Opioids



## Non-Pharmacological treatments

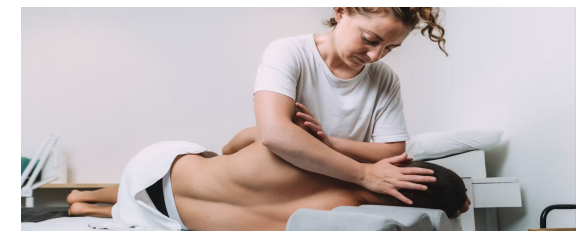
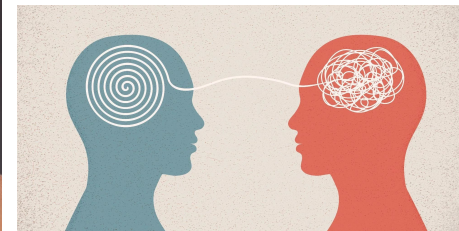
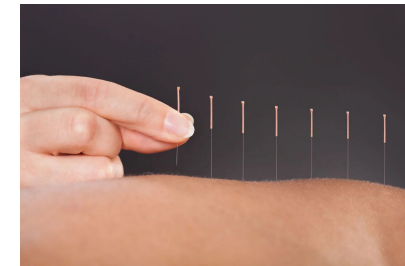
Acupuncture

Psychotherapy

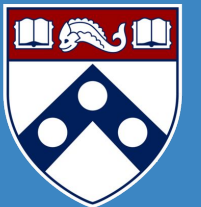
Physical Therapy

Occupational Therapy

Chiropractor



# Methods



# Our approach: Methods highlights

## → National insurance claims data

- ◆ Optum: hundreds of millions of claims for tens of millions of covered lives
- ◆ Valuable approach: income drives pain management.
  - Non-opioid medications and/or treatments are expensive
  - Hassle costs in non-pharmacological care
  - Income and health literacy

## → Ability to associate each claim with a wide range of sociodemographic variables. Some examples:

- ◆ Education
- ◆ Race
- ◆ Income
- ◆ Parenthood
- ◆ Others



OPTUM™

# Findings & Next Steps

# Main findings



## ❖ Pharmacological

- Black and Hispanic patients were more likely to receive Muscle Relaxers, Gabapentin, NSAIDs
- After adjusting, relationships remained, but OR coefficient decreased in magnitude

## ❖ Opioids

- Order of likelihood: Black, White, Hispanic, Asian
  - Adjusted and non-adjusted
- Income and education were also big drivers

## ❖ Non-pharmacological

- Excluding psychotherapy, Asian patients were repeatedly more likely to receive Non-Pharmacological therapies.
- Asians were least likely to receive psychotherapy

# For example: Gabapentin

	Partly Adjusted	P-value	Fully Adjusted	P-value
<b>Race (ref=Asian)</b>				
Black	0.118***	p<0.001	0.0690***	p<0.001
Hispanic	0.0846***	p<0.001	0.0476***	p<0.001
White	0.0603***	p<0.001	0.0446***	p<0.001
<b>Income (ref=over 100K)</b>				
Under 40k			0.105***	p<0.001
40k to 100k			0.0420***	p<0.001
Missing			0.0798***	p<0.001
<b>Education (ref=college or more)</b>				
High school or less			0.0636***	p<0.001
Some college			0.0288***	p<0.001
Missing			0.0356***	p<0.001

# Policy must change.

Education

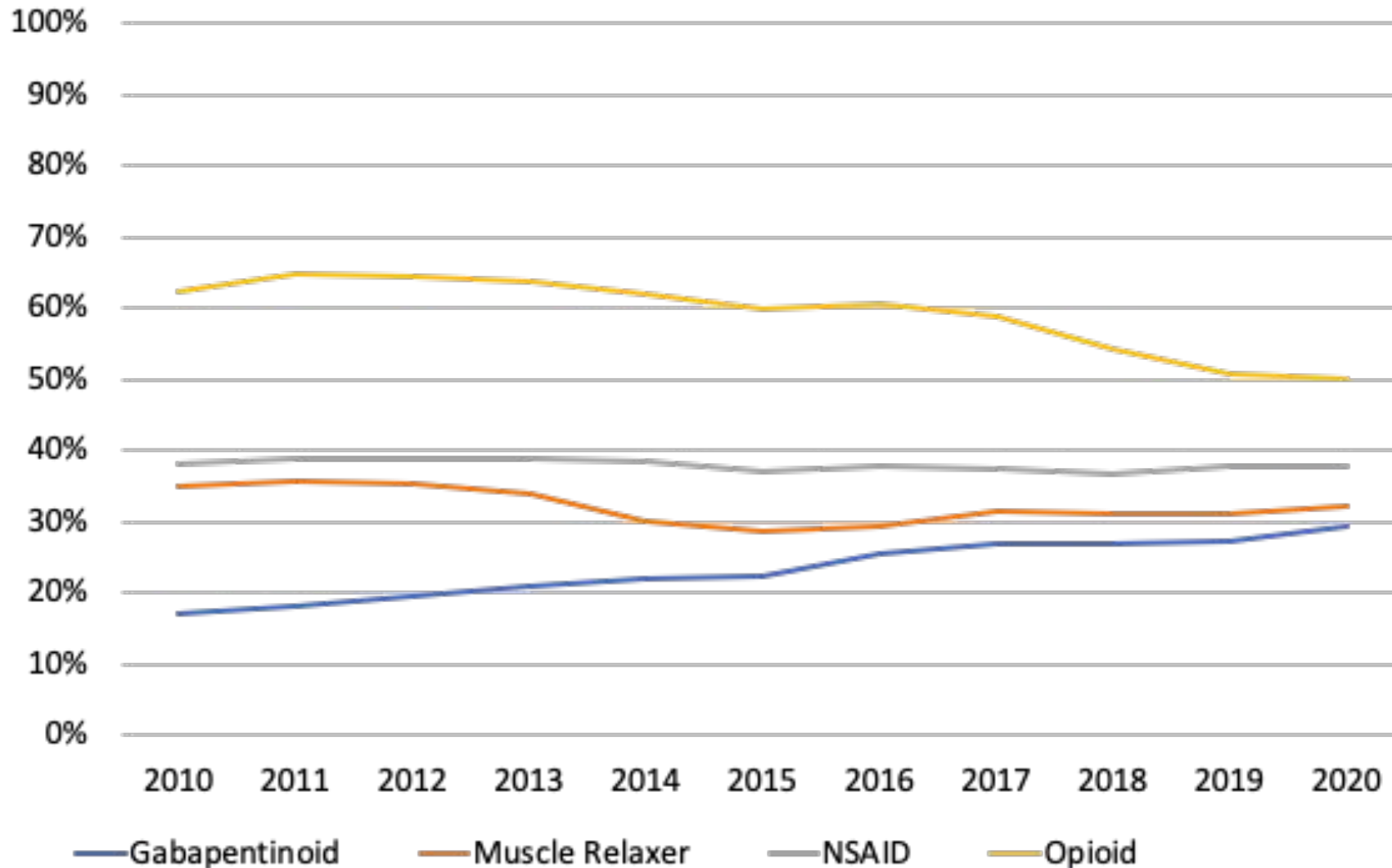


Income





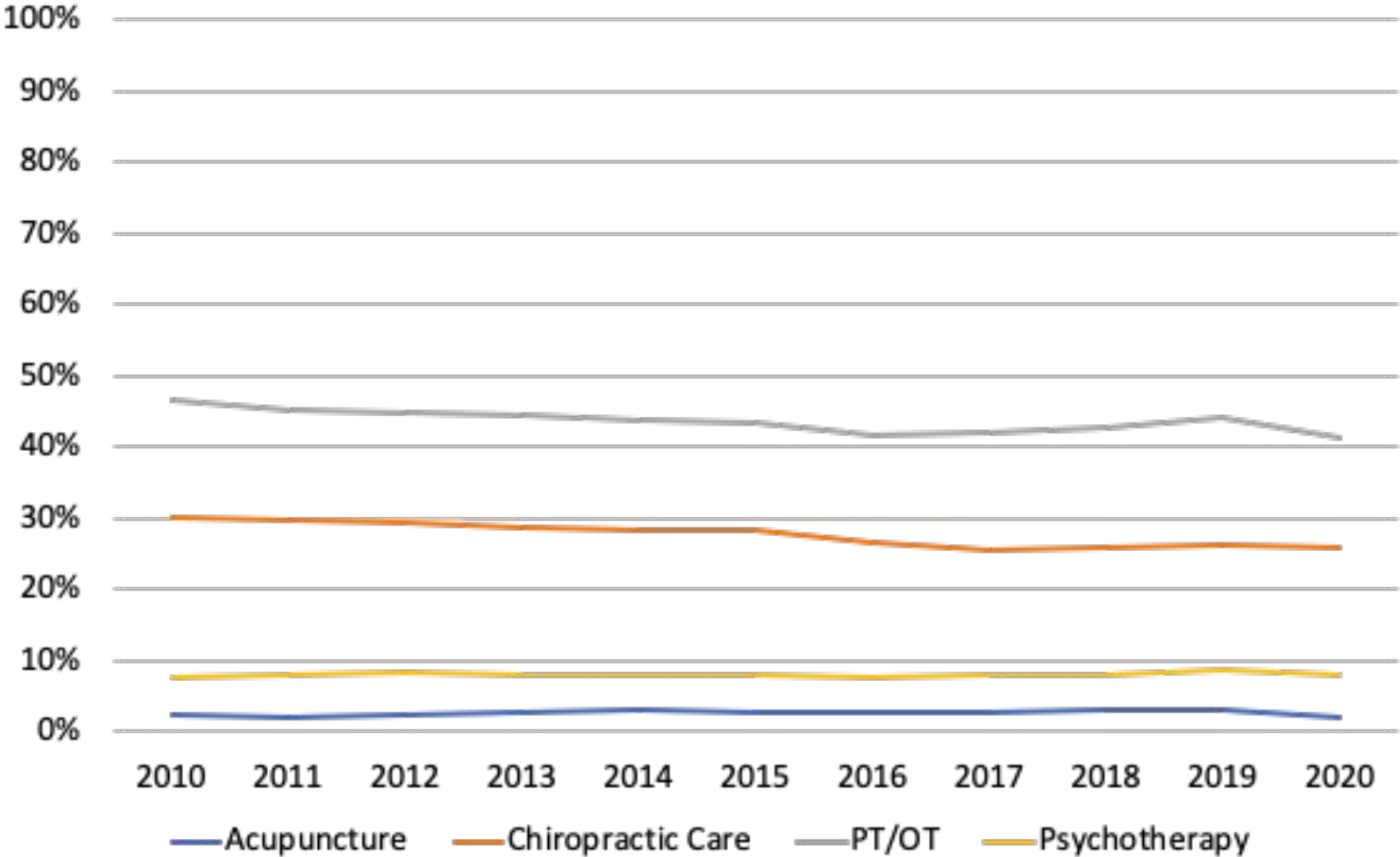
# Trends in Pharmacological Pain Care: 2010-2020



**Gabapentin Alarm!**



# Trends in Non-Pharmacological Pain Care: 2010-2020



**Hassle costs, SDOHs!**

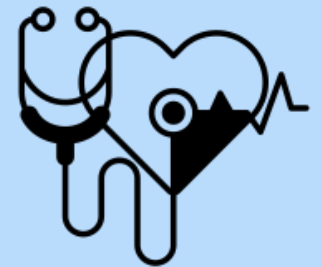
# Misconceptions, MD Curriculum and Primary Care must change.

Misconceptions in literature about African Americans access to pain management drugs must change.



Medical school curriculums **MUST** change, to train doctors better.

Chronic pain may be like a “piedra en el zapato”: the role of primary care.



# My role in the project / Lessons learned

# Learned lots!



CPT Codes expertise  
→ extended it to other projects.

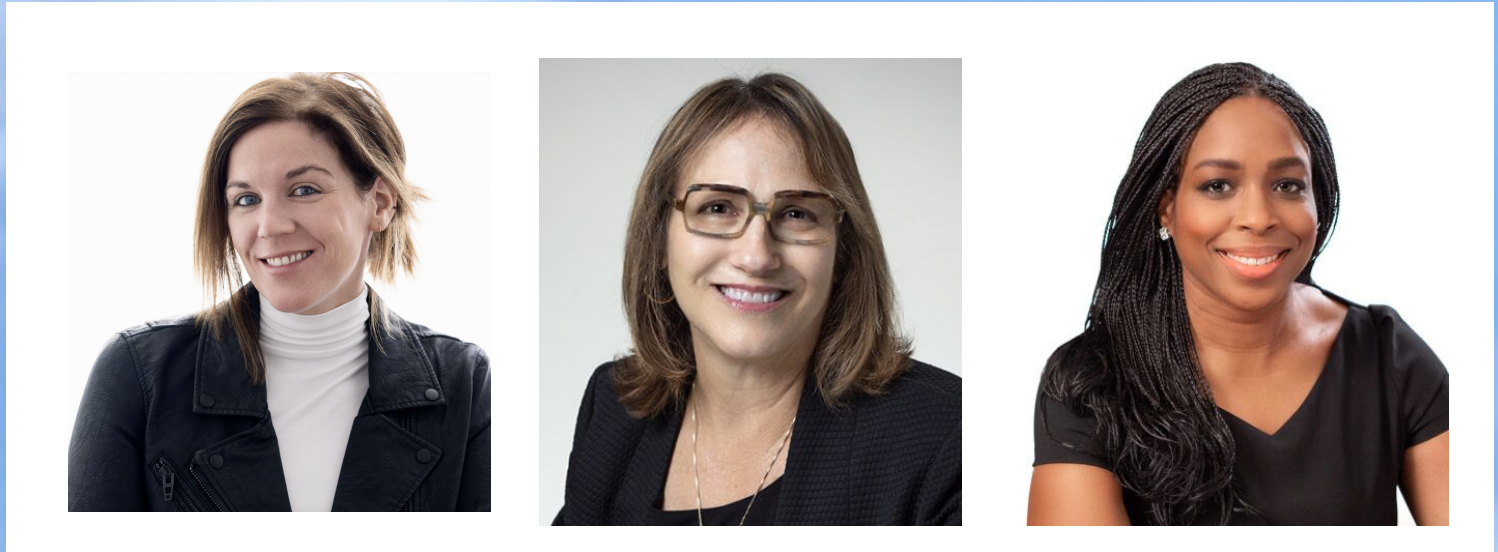
Writing a manuscript.

Leading a paper  
→ Literature review  
→ Present *new* findings  
→ What does it take to write a paper?

New interests  
→ Pain  
→ Opioid epidemic and other drugs  
- Colombia past  
→ Future paths  
→ CHIBE-PAIR Retreat

Publications!

**Special  
thanks to  
these  
wonderful  
women,  
friends and  
mentors.**





# Income is a driver of pain management, thus, insurance claims angle gives value to both papers.

Non-opioid medications may be expensive.



Non-pharmacological treatments involve many hassle costs.

Underserved communities usually have lower incomes and healthcare access.



**Medicare**

A & B?



**Medicaid?**



Better income is positively related to better education - health literacy.