



Developing a Pain Management Model for Patients Receiving Medication for Opioid Use Disorder

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Spotlight on Pain Management Seminar 5 December 2023

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No conflicts of interest

Aims of Today's Talk

- Background
- Different models
- Proposed Stepped-care model
- Complicating factors

Chronic Pain (CP)

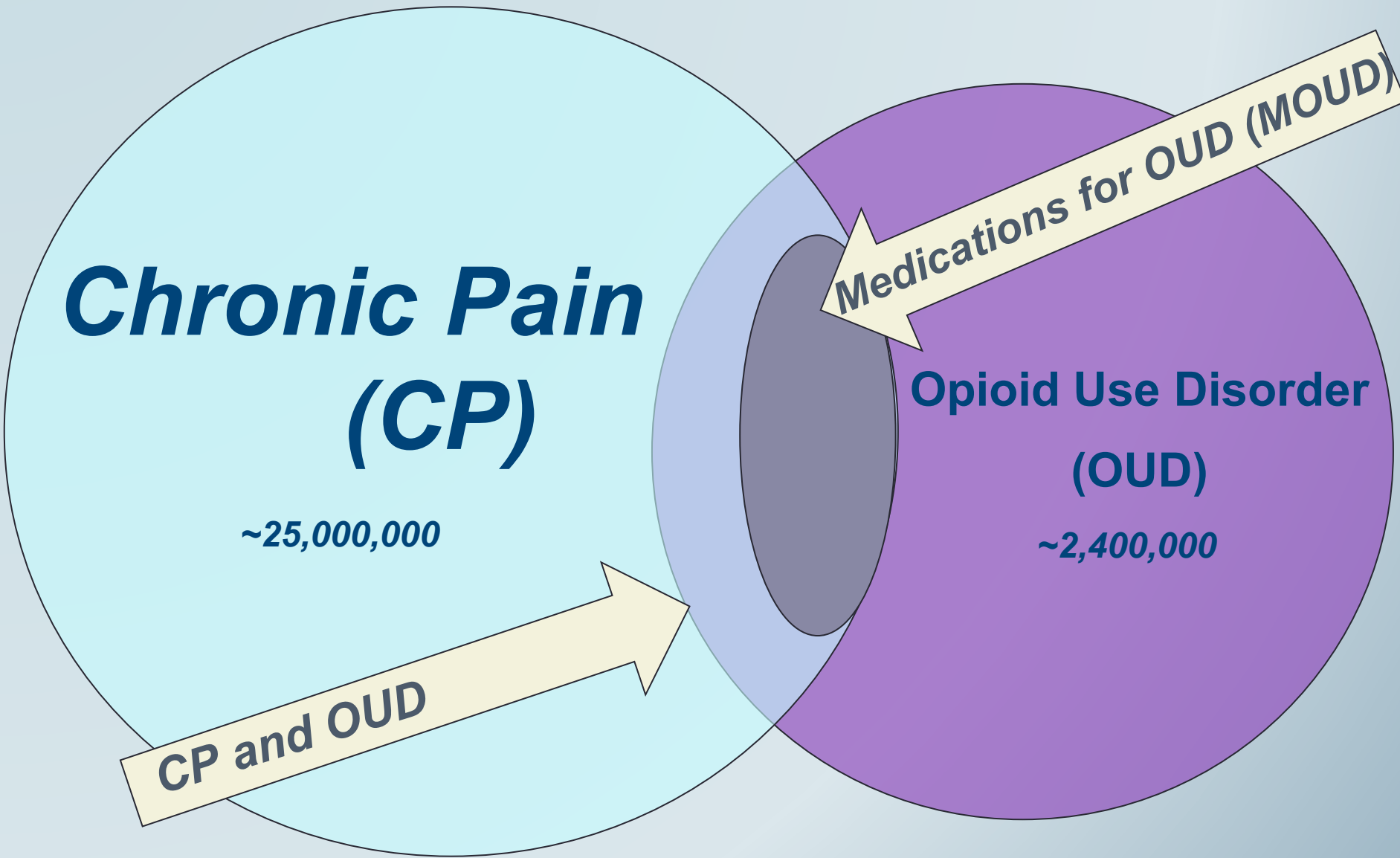
~25,000,000

CP and OUD

Medications for OUD (MOUD)

Opioid Use Disorder (OUD)

~2,400,000



Importance of MOUD

- Untreated OUD is a key driver of the opioid crisis
- MOUD
 - Effective treatments for OUD
- Retention in MOUD
 - Poorly managed CP
- Opioid treatment programs
- >1,000 federally regulated clinics serving >430,000 patients with OUD
- If OTPs were to offer integrated OUD and CP care
 - Transformational
 - Existing regulations, personnel

Why address chronic pain in settings offering treatment for opioid use disorder?

Rates of chronic pain in patients with opioid use disorder are elevated

- Prevalence of chronic pain in methadone maintenance treatment is high:
 - 37% with chronic severe pain to^{1,2}
 - > 60% with chronic pain of any intensity³
- Prevalence of chronic pain in patients seeking buprenorphine-naloxone treatment is high:
 - 36%⁴

1. Barry et al. *Relations among psychopathology, substance use, and physical pain experiences in methadone-maintained patients.* *J. Clin. Psychiatry.* 2009;70:1213-1218.
2. Rosenblum et al. *Prevalence and characteristics of chronic pain among chemically dependent patients in methadone maintenance and residential treatment facilities.* *JAMA.* 2003;289:2370-2378
3. Jamison, RN, Kauffman, J, Katz, NP. *Characteristics of methadone maintenance patients with chronic pain.* *J. Pain Symptom Manage.* 2000;19:53-62.
4. Barry, et al. *Pain and associated substance use among opioid dependent individuals seeking office-based treatment with buprenorphine-naloxone: A needs assessment study.* *Am. J. Addict.* 2013

Is pain related to substance use?

**Chronic Pain
(n = 88)**

Past Week substance use to relieve pain	%
More than prescribed opioid medication	33
Somebody else's opioid medication	61
Heroin	39
Street Methadone	15
More than prescribed non-opioid medication	11
Somebody else's non-opioid medication	13
More than prescribed benzodiazepine medication	11
Somebody else's benzodiazepine medication	14
Cannabis and other street drugs	36
Alcohol	24

Is pain related to substance use?

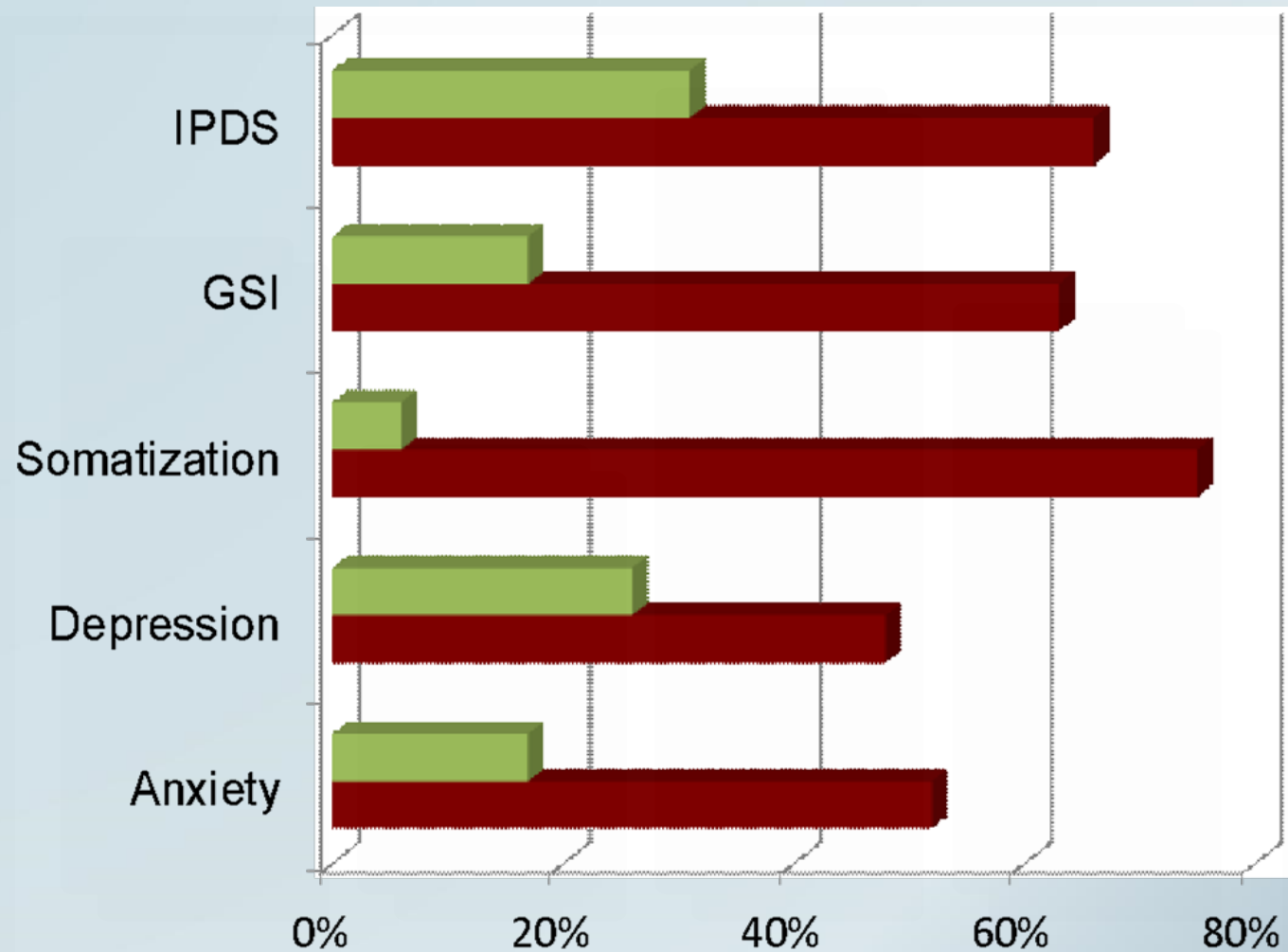
- Increased cravings linked to pain¹
- Substance use to manage pain, especially flare-ups²⁻³

¹*Tsui et al., Drug Alcohol Depend 2016*

²*Griffin et al., Drug Alcohol Depend 2016*

³*Weiss et al., JSAT 2014*

Psychiatric Correlates of Pain in MMT



N = 150 MMT patients

■ NP = No pain in past 7 days

■ CP = Pain for at least 6 months with clinically significant severity/interference

Where is the pain located?

Patients with Chronic Pain
(n = 88)

Pain location	%
Back	84
Legs	48
Shoulder	33
Other	25
Head	19
Stomach	16
Feet	13
Pelvis	10
Hands	9
Arms	6
Face	2

Where did the pain come from?

Chronic Pain
(n = 88)

Pain genesis	%
Accident	57
Nerve damage	21
Don't know	21
Surgery	11
Arthritis	11
HIV	0
Cancer	0
Opioid Withdrawal	0

Are patients entering MOUD interested in onsite pain treatment?

- Yes!
- Among those with chronic pain
 - 89% entering buprenorphine/naloxone treatment
 - 73% entering methadone maintenance treatment

Current Situation

- Many patients on MOUD with CP go untreated
- Those treated
 - Separate providers
 - Different locations
- Counselors in MOUD settings
 - On the front-lines
 - Deliver treatment for addiction based on biopsychosocial model
 - Not currently trained on assessing or addressing chronic pain

Table 1. Barriers and facilitators to addiction counselors' treating pain in MMT

Themes	Subthemes	%	B or F	Examples	
Counselor factors	Expertise in pain and opioid use disorder	46	B	Difficulty addressing NMUPO	
	Complexity of treatment needs	43	B	Difficulty prioritizing patients' clinical needs	
	Concern about medication regimens	33	B	Concern about opioid-related adverse events	
	Reliance on patient self-report	33	B	Absence of objective pain severity measure	
	Absence of improvement	30	B	Sadness about patients' declining prognosis	
	Empathy	70	F	Attempting to understand patient's lived experience of pain	
	Attending to small changes	33	F	Witnessing small improvements in functioning	
	Self-reflection	30	F	Gratitude about inexperience with chronic pain	
	Patient factors	Medical providers	36	B	Provider insouciance about patients' pain
		Social role	36	B	Inability to perform valued familial role
Motivation		33	B	Using heroin to alleviate pain	
Attitudes to opioid use disorder		30	B	Reluctance to acknowledge opioid use disorder	
Logistical factors	Pain management referrals	50	B	Absence of appropriate pain management referrals	
	Time	23	B	Time spent monitoring pain medications	
	Treatment adherence	20	B	Patient missing methadone dose	
	Consultations	20	F	Consulting with MMT medical providers	

Abbreviation: NMUPO, non-medical use of prescription opioids; MMT, methadone maintenance treatment. B, barrier; F, facilitator; %, percentage of counselors who reported each subtheme.

If money were not a consideration...

- Multimodal interdisciplinary chronic pain management
 - Medication management
 - Psychological treatments (e.g., CBT, ACT, Mindfulness-based)
 - Exercise
 - Stress reduction
- Can we implement core components in opioid treatment programs?
 - Expensive
 - Reimbursement
 - Existing staff

Group Treatments for Co-Occurring Chronic Pain and Opioid Use Disorder

- Examined feasibility and acceptability
 - Exercise groups
 - Tai Chi
 - Wii Fit
 - Walking meditation
 - CBT psychoeducation with exercise goal setting
 - Stress Reduction groups
 - Relaxation training
 - Auricular acupuncture
 - Group singing

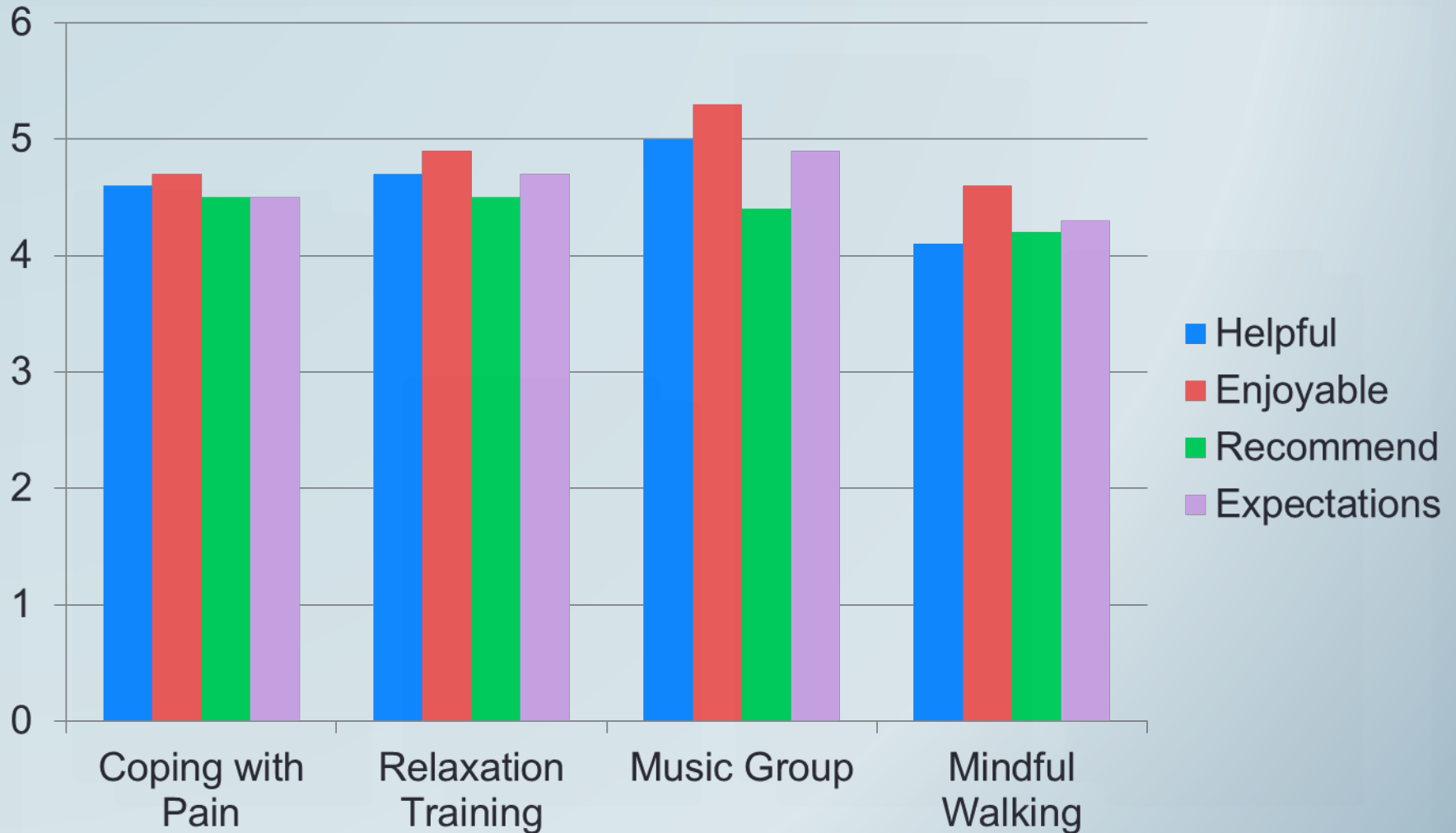
Drop-in Groups

- Manual-guided interventions
- Could be delivered with minimal training
- Delivery was uniform
 - Same material covered in each session
 - Designed as single session interventions
 - Invited them back for booster
- Little attendee interaction
- 50 minutes

Group Characteristics

	Mean (SD)	Minimum	Maximum
Session attendance			
Coping with Pain	2.7 (3.6)	1	26
Relaxation	2.3 (2.8)	1	20
Music Group	2.4 (3.3)	1	18
Mindful Walking	1.3 (0.8)	1	6
Attendees per group			
Coping with Pain	3.7 (3.0)	1	13
Relaxation	4.3 (3.5)	1	17
Music Group	4.8 (3.3)	1	15
Mindful Walking	2.9 (2.3)	1	9

Post-group Satisfaction Ratings



Changes from Session 1 to Session 2

- Coping with Pain
 - Characteristic pain intensity (66 vs. 59)
- Relaxation Training
 - Anxiety (4.3 vs. 3.4)
- Music Group
 - No change

Training counselors on Pain Management

- Examined knowledge pre-, post-, and 6-month f/up
- PowerPoint slide presentation
 - Background literature
 - Evidence-based treatments
 - Psychoeducation and exercise
- Brief intervention
 - Psychoeducation
 - Exercise goal

Acute Pain

- New (e.g., broken arm)
- Tissue damage
- Pain intensity will likely go away
- Purpose = a reliable signal about tissue damage (e.g., a fire alarm warning of danger)

Chronic Pain

- Old - at least 3 months
- Healing is complete, but there are residual problems
- Pain intensity may never go completely away
- Pain is no longer a reliable signal of harm or tissue damage (e.g., a broken fire alarm)

Acute Pain

- Treatments
 - Medication
 - Rest
 - Surgery
- Provider-administered
 - Done to patient by a clinician
- Treatment Goal
 - Pain Relief

Chronic Pain

- AP treatments worsen CP
 - Limit activity
 - Encourage passivity
 - Set unrealistic goals
- Self-administered
 - Patient takes more responsibility
- Treatment Goal
 - Pain Management

Behavioral Activation

- Physical exercise
 - Walking
 - Swimming
 - Stretching
- Paced exercise prescribed
 - Not too much or too little

Findings

After the training, there were significant increases in

- Knowledge
- Ability to assess pain
- Ability to recommend appropriate interventions

Maintained at 6 month follow-up

Cognitive-behavioral therapy (CBT)

- Efficacious in separately treating chronic pain and SUDs
- 3 pilot studies and 2 RCTs have found support for CBT for chronic pain and substance-related disorders¹⁻⁵
- No trials have examined the efficacy of OAT with CBT for OUD and chronic pain⁶

1. Currie et al., *J Pain*, 2003, 2. Ilgen et al., *Cogn Behav Prac*, 2011, 3. Morasco et al., *Pain Med*, 2016, 4. Ilgen et al., *Addiction*, 2016, 5. Ilgen et al., *JAMA Psychiatry*, 6. Eilender et. Al., *Addict. Disord Their Treat*, 2016

Randomized Clinical Trials

- Setting
 - Methadone Clinic
 - Sample Size
 - 40
 - Opioid Medication
 - Methadone
 - Counseling
 - CBT
 - Drug Counseling
- Setting
 - Office-based
 - Sample Size
 - 90
 - Opioid Medication
 - Buprenorphine/naloxone
 - Counseling
 - Physician Management (PM)
 - PM + CBT
 - PM + Health Education

PSYCHOSOCIAL TREATMENT MODELS

Cognitive Behavioral Therapy (CBT)

Methadone Drug Counseling (MDC)

Functional Analysis of Behavior

Process of Recovery

Coping with Cravings or Pain Flare-Ups

Relationships in Recovery

Psychoeducation

Self-Help Groups and Support Systems

Exercise and Behavioral Activation

Coping with Shame and Guilt

Relaxation Training

Cognitive Restructuring

Resilience Training

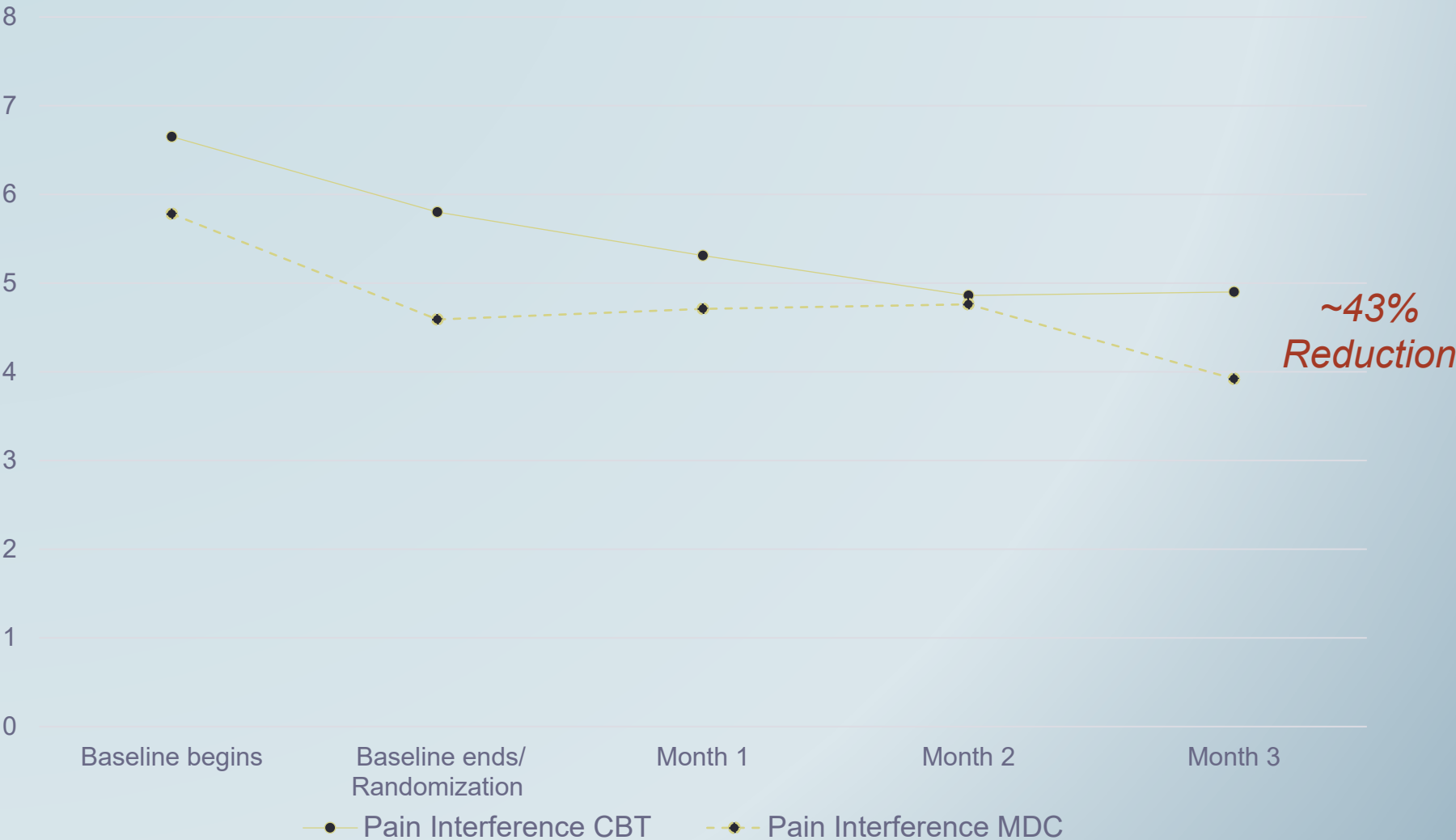
Assertiveness Training

% ABSTINENT FROM NONMEDICAL OPIOID USE OVER TIME



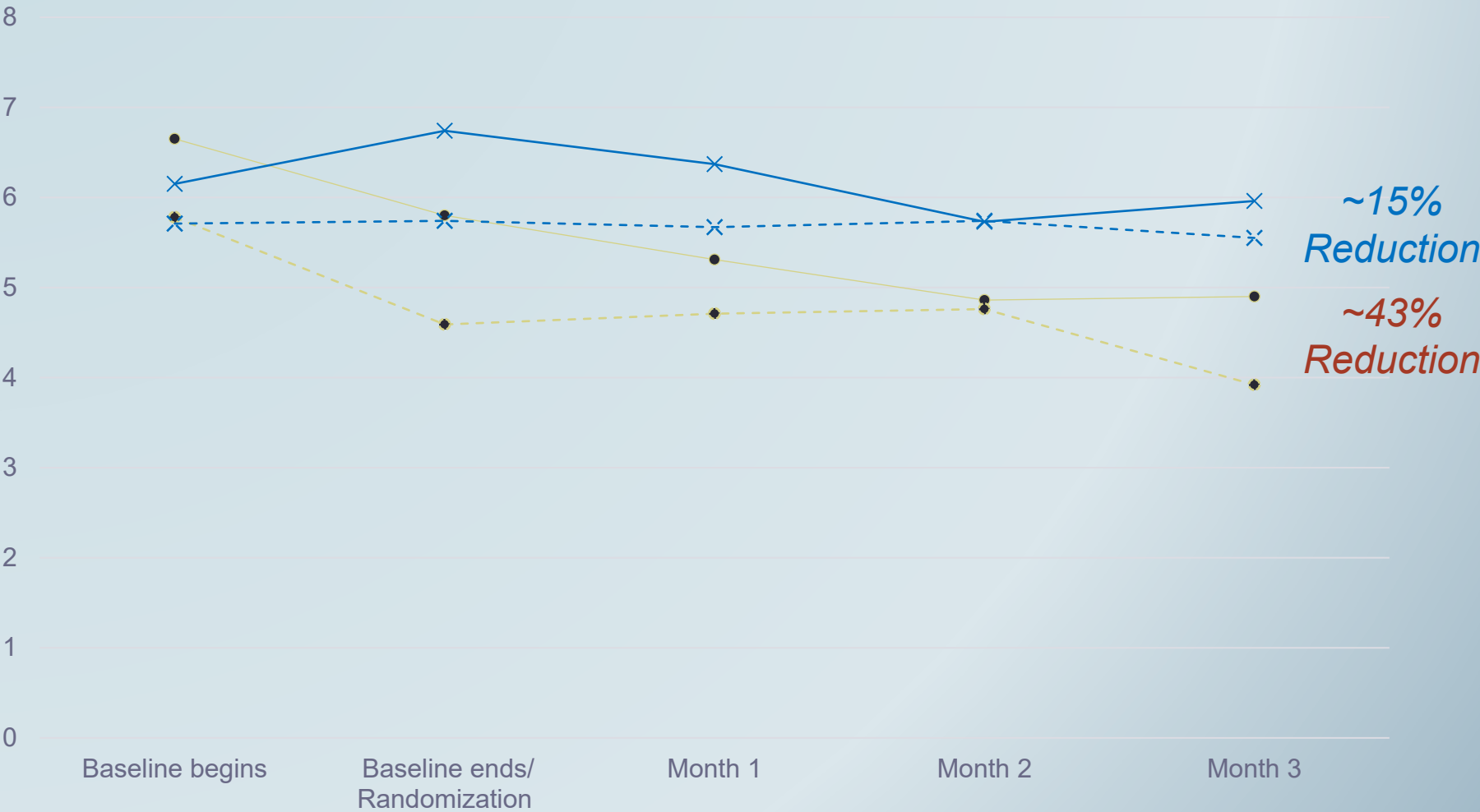
Rate at baseline is based on 3 consecutive weekly urine screens; all other rates are based on 4 consecutive weekly urine screens. Rates (on Y-axis) refer to percentages.

PAIN SCORES OVER TIME¹



¹ Pain interference and intensity were measured on 0-10 scales.

PAIN SCORES OVER TIME¹



● Pain Interference CBT ◆ Pain Interference MDC × Pain Intensity CBT × Pain Intensity MDC

¹ Pain interference and intensity were measured on 0-10 scales.

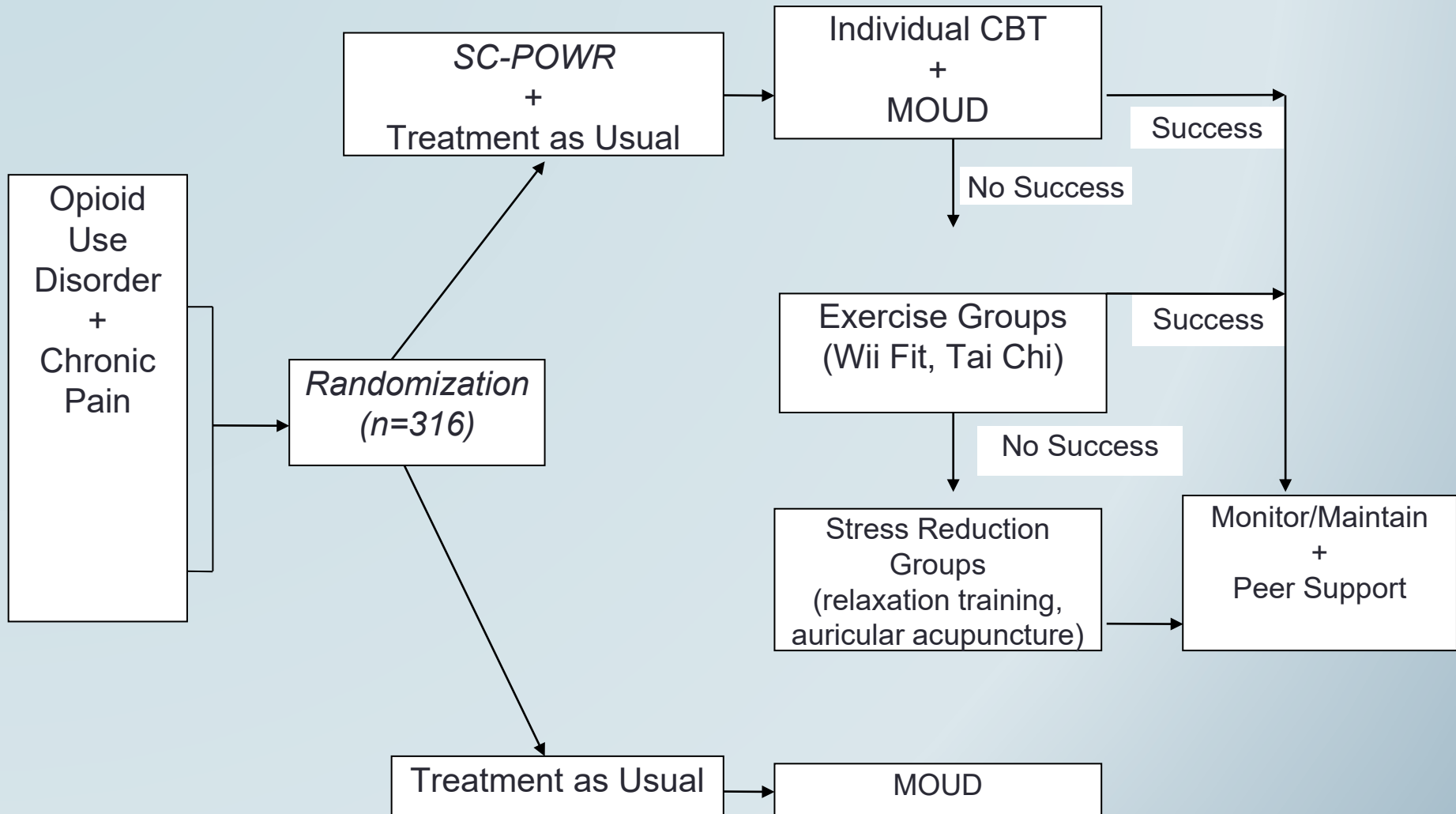
How to enhance pain outcomes?

- Exercise
- Stress reduction

Stepped Care Model

- Calibrates intensity to patient's response
- Proposed model
 - Individual CBT conducted by addiction counselors
 - MOUD
 - Onsite groups
 - Exercise (Tai Chi, Wii Fit)
 - Stress reduction (Relaxation training, auricular acupuncture)

Stepped Care for Patients to Optimize Whole Recovery (SC-POWR)



Pain-Opium Dysfunction Cycle

-
- Lowers pain threshold
 - Emotional distress

Pain

- Immediate pain relief
- Feel better
- Risky behaviors

Addiction/Opium Use

- Thoughts
- I can't tolerate the pain any longer
 - I can't move without my pain getting worse

- Behavior
- Inactivity
 - Constricting social world
- Feelings
- Anxious
 - Depressed

Inclusion

- ≥ 18 years old
- High impact chronic pain (≥ 3 months duration of pain occurring most days that limits life or work activities and/or leads to inability to work)
- DSM-5 criteria for moderate to severe OUD (i.e., ≥ 4 DSM-5 criteria met besides tolerance and withdrawal for individuals prescribed opioids)
- Opioid-positive urine test or self-reported opioid use
- Understand English

Exclusion

- Pending surgery
- Acutely psychotic, suicidal, or homicidal
- Contraindication to exercise (e.g., complete heart block)
- Pending planned relocation or pending incarceration

Aims

Compared to treatment-as-usual:

1. Evaluate the impact of SC-POWR on nonmedical opioid use and pain
2. Evaluate the impact of SC-POWR on alcohol use, anxiety, depression, stress, and sleep
3. Determine at weeks 36 and 48, the durable effects of SC-POWR for decreasing nonmedical opioid use, pain, anxiety, depression, and stress, and improving sleep and MOUD retention

Exploratory Aims

1. Conduct mixed-methods research with patients to inform implementation and dissemination
1. Determine cost-effectiveness of TAU with and without SC-POWR
1. Investigate potential mechanisms of SC-POWR
 - Exercise
 - Self-efficacy
 - Pain catastrophizing
 - Stress
 - Pain-related fear

Progress to Date

- Completed pilot study
 - Trained/certified 10 addiction counselors
- Started RCT
 - Enrolled 36 participants

Complicating Factors

- Turnover of counselors
 - 3 addiction counselors left agency
- Fentanyl
- Economic/social distress
- Psychiatric distress
- Previous treatment

Summary and Conclusions

- Chronic pain and opioid use disorder
 - Prevalent
 - Elevated psychopathology
 - Clinician frustration
 - Paucity of evidence-based integrated approaches
- Integrated treatment
 - Safe, feasible, and acceptable
 - Initial investigations of efficacy are promising
 - Can be provided in groups
 - Cost may be a concern for MOUD settings
- Stepped Care
 - Need more research

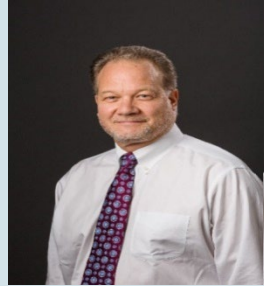
Integrative Management of chronic Pain and OUD for Whole Recovery – Yale and Organizations United (IMPOWR-YOU)



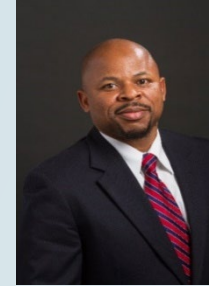
William Becker, MD



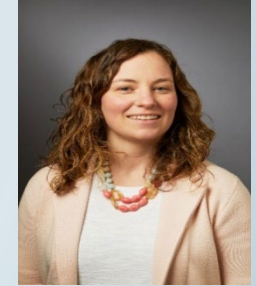
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DTM&H*



*Melissa
Weimer, DO,
MCR*



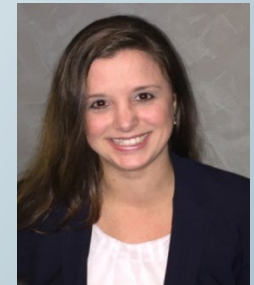
Anne Black, PhD



Robert Kerns, PhD



Kirsha Gordon, PhD

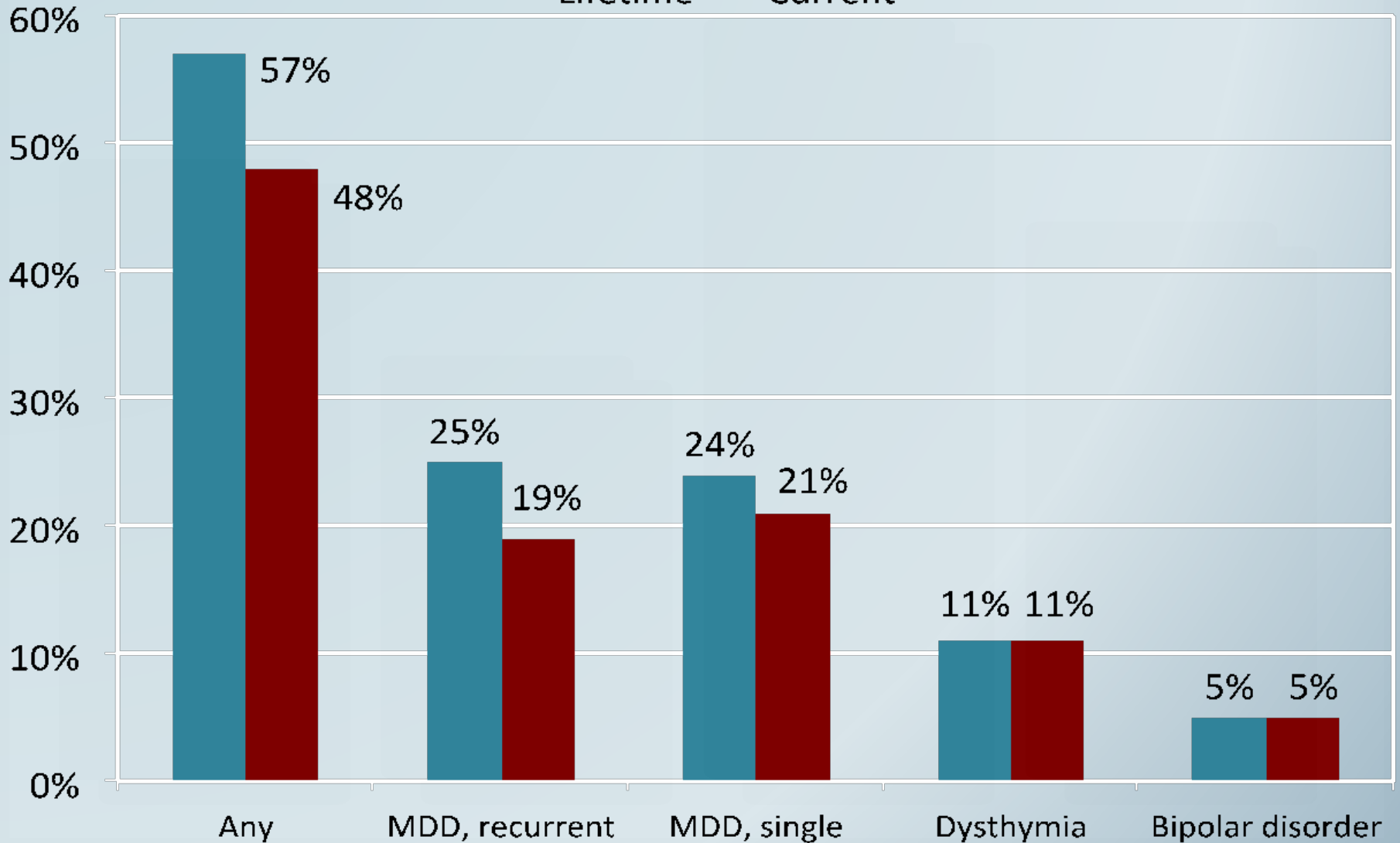


Sara Edmond, PhD

Mood Disorders

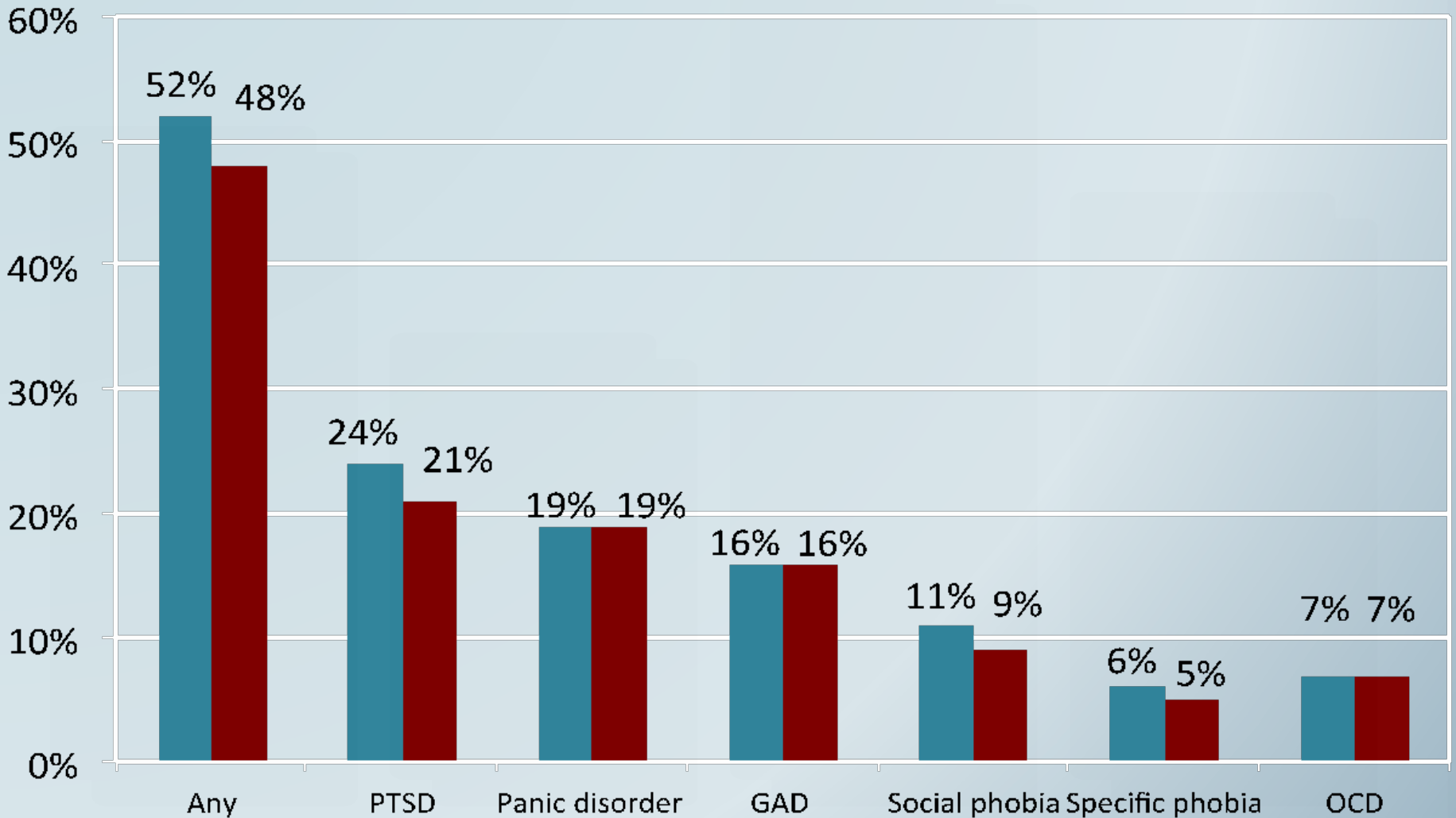
N=170

■ Lifetime ■ Current



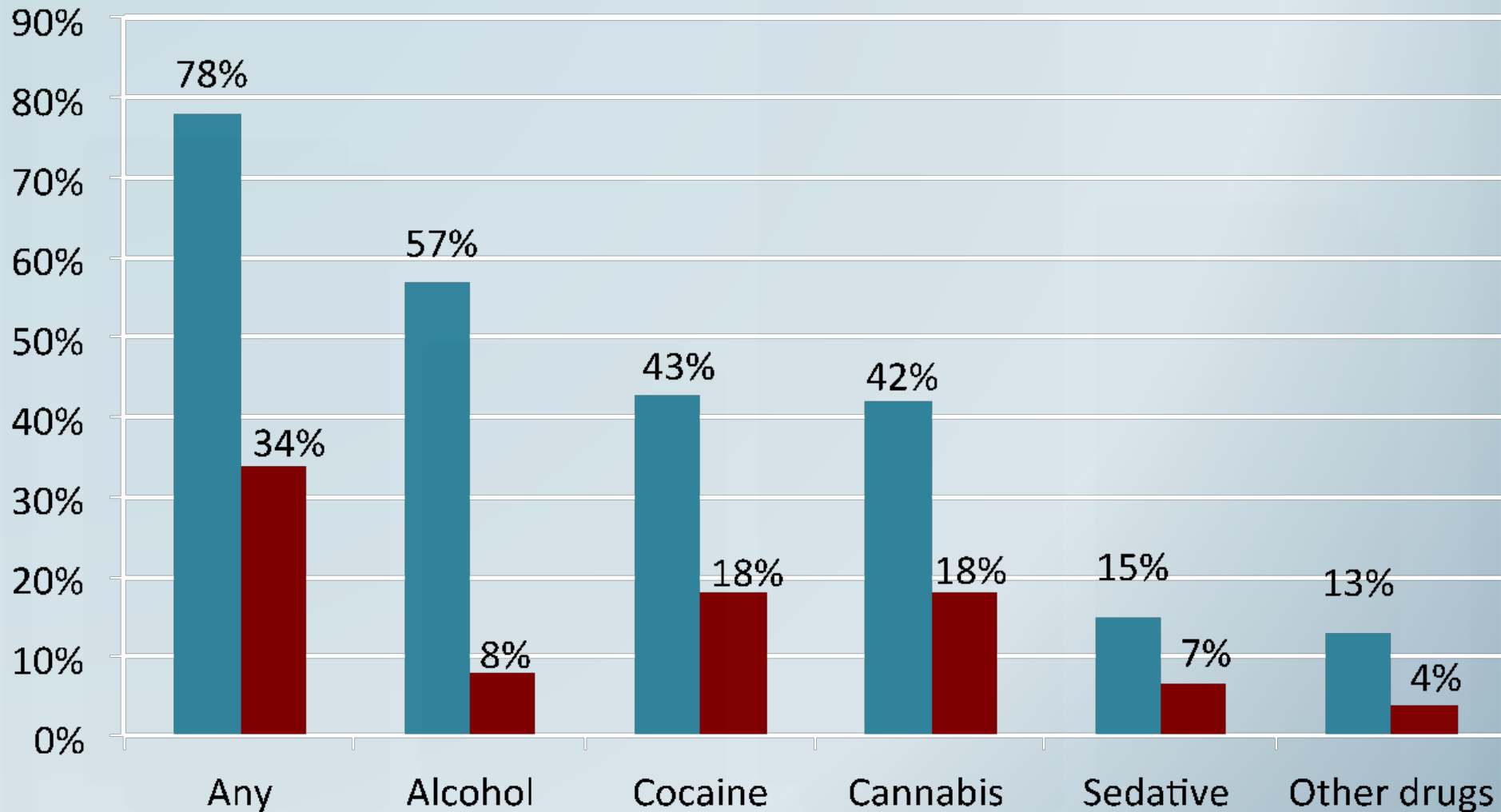
Anxiety Disorders

■ Lifetime ■ Current

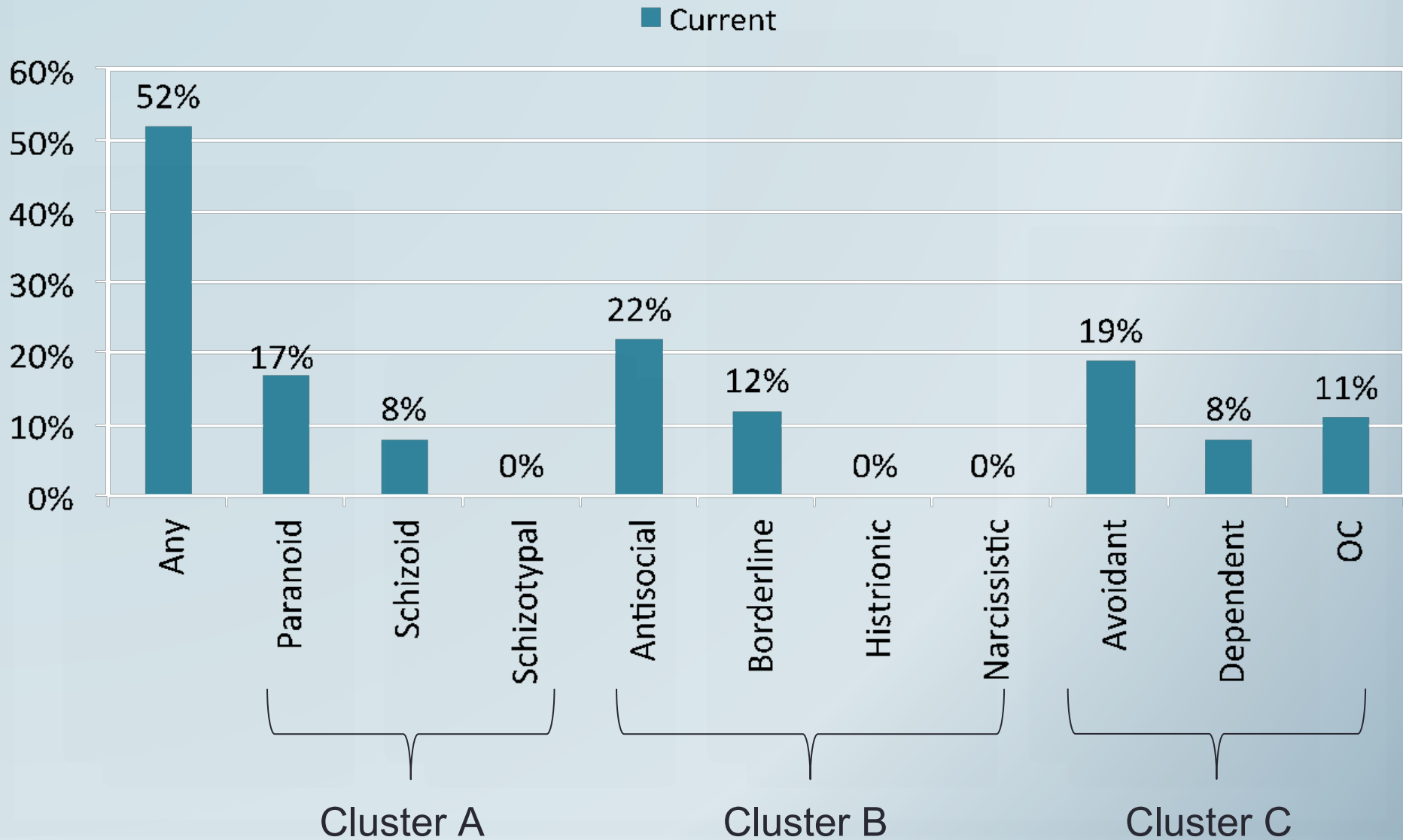


Non-Opioid Substance Use Disorders

■ Lifetime ■ Current



Personality Disorders



Current Mental Health Treatment

- In the month prior to baseline
 - 4% : mental health visit
 - 15% : prescribed psychiatric medication
 - 16% : either

What treatments have patients used?

Chronic Pain (n = 88)	
Conventional Medicine	%
Over-the-counter pain medication	83
Opioid medication	75
Non-opioid medication	58
Benzodiazepine medication	36
Complementary & Alternative Medicine	
Alternative Medical Systems/ Biologically Based Therapies	
Acupuncture	21
Herbs/Herbal medicine	22
Mind-body interventions	
Prayer	46
Counseling/ psychotherapy	38
Meditation	23

Lifetime Treatment Use

	Chronic Pain (n = 88)
Complementary & Alternative Medicine	%
Mind-body interventions	
Self-help support group	31
Yoga	6
Hypnosis	3
Manipulative and body-based methods	
Stretching	73
Physical exercise	73
Heat therapy	58
Massage	52
Physical therapy	66
Ice therapy	44
Chiropractor	55

Order of Onset

- Pain First (52%)
- Opioid Use Disorder First (35%)
- Same Time (13%)

- Compared to Pain First Group
 - Same Time Group more likely to (1) report heroin as primary drug used and (2) meet criteria for Axis II
 - Opioid Use Disorder First Group more likely to meet criteria for a current non-opioid substance use disorder

- Varying pathways may exist for the emergence of chronic pain and opioid use disorder