



Managing co-occurring opioid use disorder and chronic pain

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- I have no financial disclosures.

Pain Treatment Services Team



Aims of Today's Talk

- Patient characteristics and provider challenges
- Integrated treatment approach
- Dismantling the integrated treatment approach

Chronic Pain

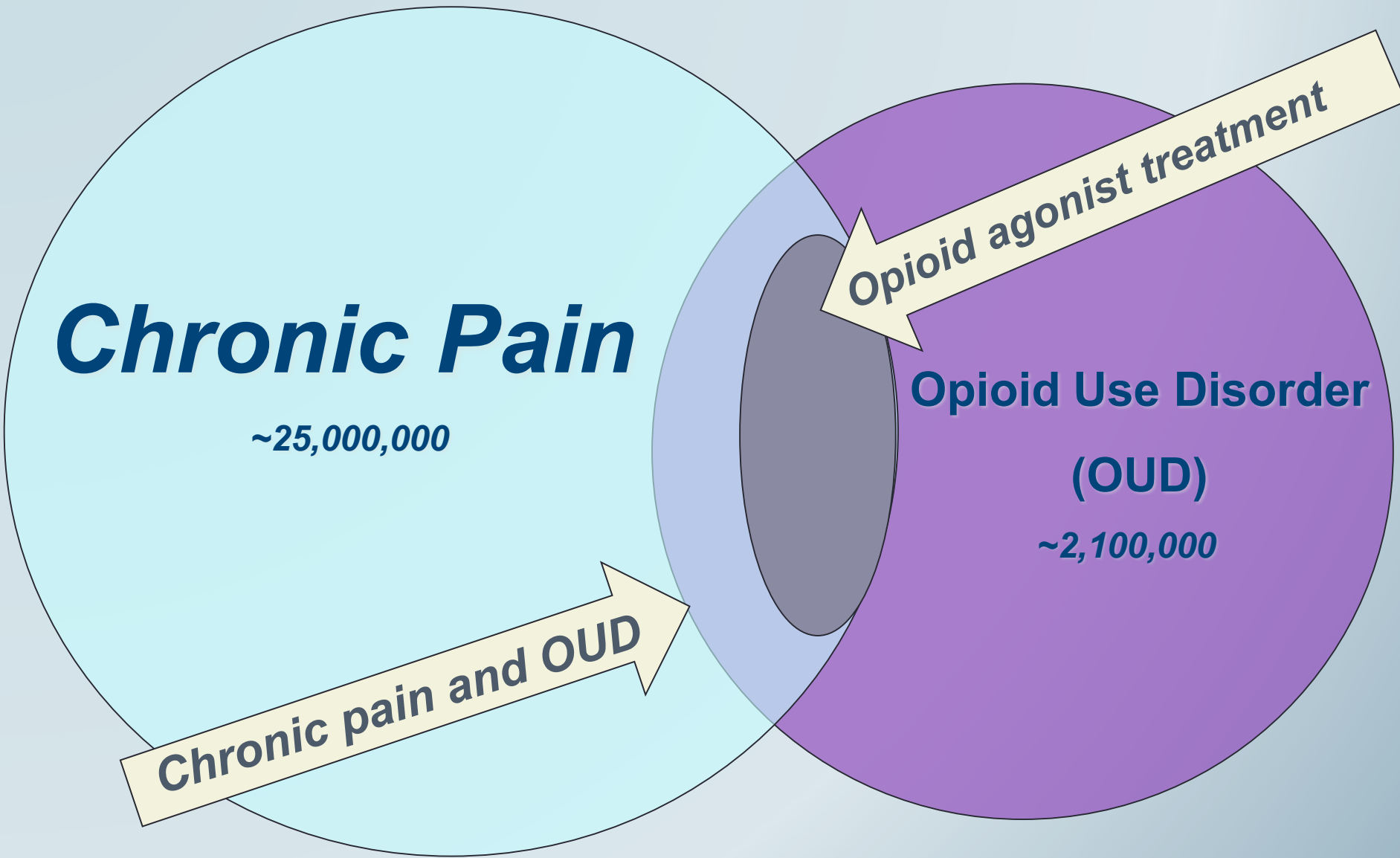
~25,000,000

Chronic pain and OUD

Opioid agonist treatment

Opioid Use Disorder (OUD)

~2,100,000



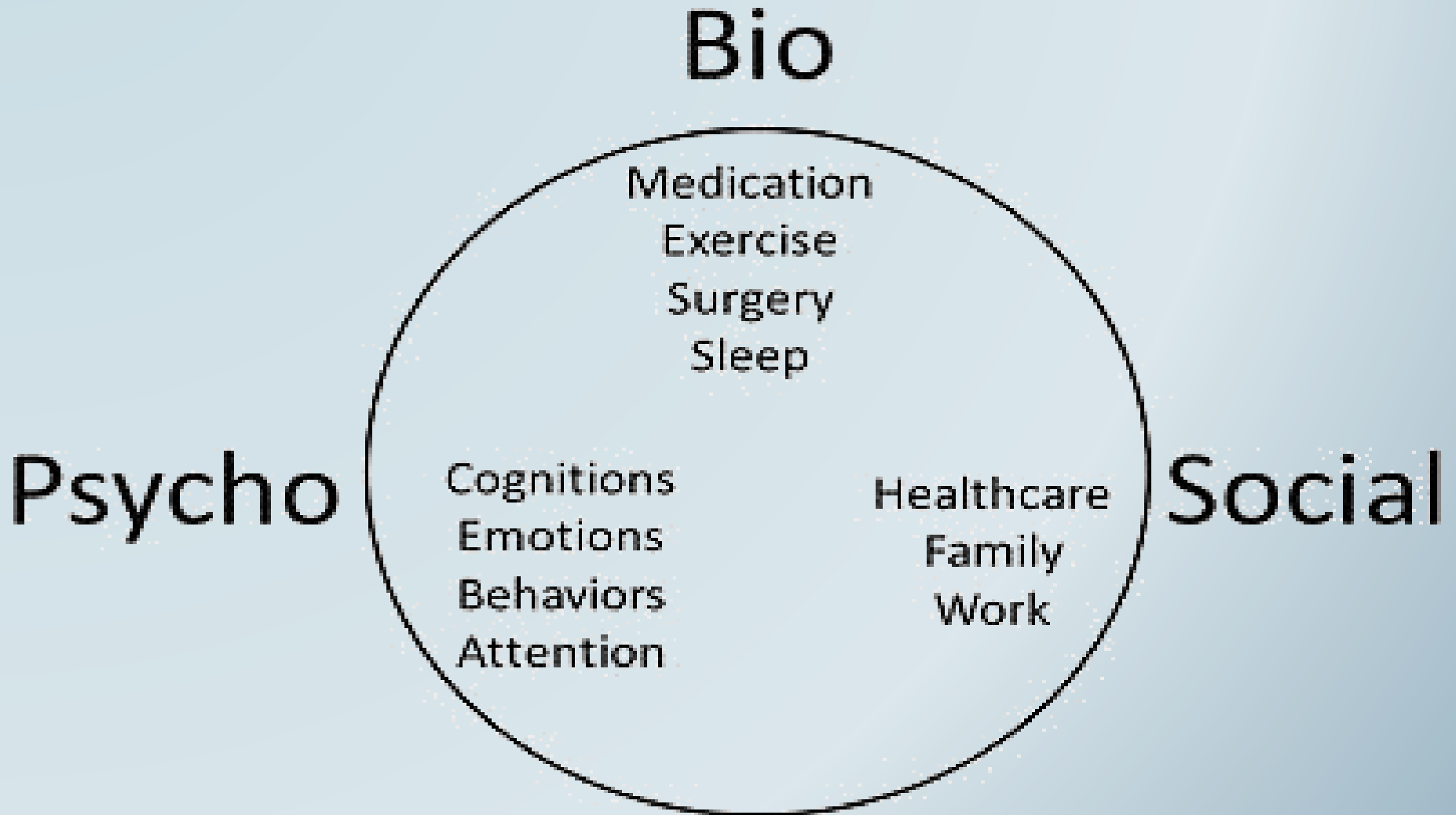
What is Pain?



- “An unpleasant sensory and emotional experience associated with:
 - actual or potential tissue damage, or
 - described in terms of such damage”

(IASP, 1994)

Biopsychosocial Model of Pain



What is Chronic Pain?

- Duration
 - 3 months
 - Healing
- Symptom vs. disease
 - Degenerative cortical changes¹

Chronic Pain: Prevalence and Burden

- Cross-national estimates of chronic pain:
 - 10% in general population¹
 - 20% in primary care²
- CDC: 25 million³
- Low back pain: 6th leading cause of disease burden
 - 1206 disability-adjusted life years per 100,000⁴

1. Verhaak, PF, Kerssens, JJ, Dekker, J, Sorbi, MJ, Bensing, JM. Prevalence of chronic benign pain disorder among adults: A review of the literature. *Pain*. 1998;77:231-239.

2. Gureje, O, Simon, GE, Von Korff, M. A cross-national study of the course of persistent pain in primary care. *Pain*. 2001;92:195-200.

3. Dahlhamer et al, WMMR 2018

4. Murray et al, *Lancet* 2012; 380: 2197-223

What are rates of chronic pain among patients receiving opioid agonist treatment?

- Methadone
 - 37%^{1,2}
 - >60%³
- Buprenorphine
 - 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

Where is the pain located?

Chronic Pain Patients
(n = 88)

| Pain location | % |
|---------------|----|
| Back | 84 |
| Legs | 48 |
| Shoulder | 33 |
| 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 |

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 |

What treatments have patients tried?

**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 |

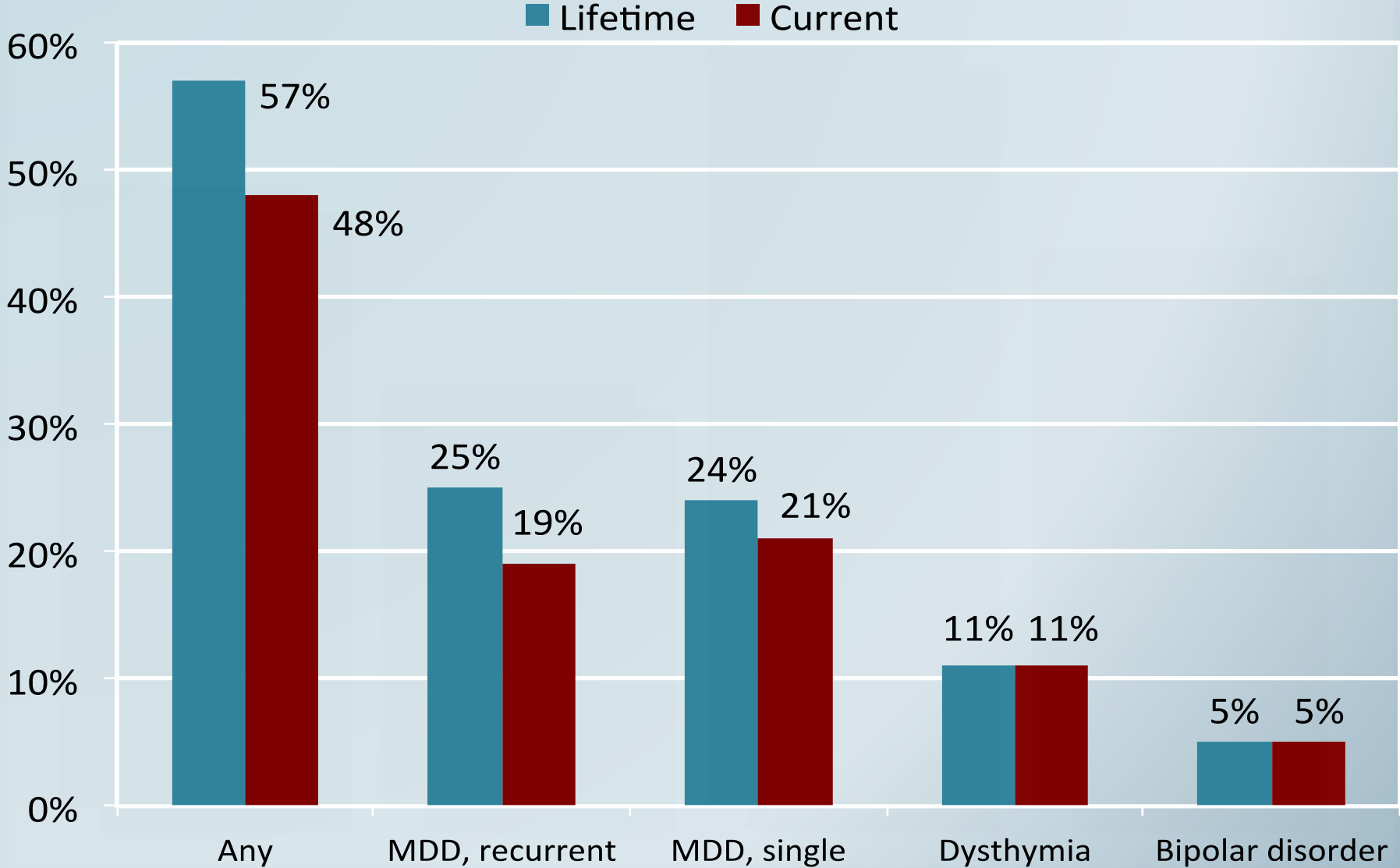
Baseline Characteristics

| | MMT (N=57) | BNT (N=113) | Total (N=170) |
|--|-----------------------|------------------------|--------------------------|
| Mean age, years* | 39 | 35 | 36 |
| Gender, % male | 72 | 71 | 71 |
| Race, % white | 88 | 87 | 87 |
| Employed (full-time, part-time, student)* | 28 | 56 | 47 |
| Married, % | 18 | 21 | 20 |
| >High school education, % | 86 | 87 | 87 |
| Primarily heroin user, %* | 60 | 38 | 45 |
| Outpatient mental health visit in past month, % | 4 | 4 | 4 |
| Prescribed psychiatric medication in past month, %* | 23 | 11 | 15 |

*MMT=methadone maintenance treatment
BNT=buprenorphine/naloxone treatment*

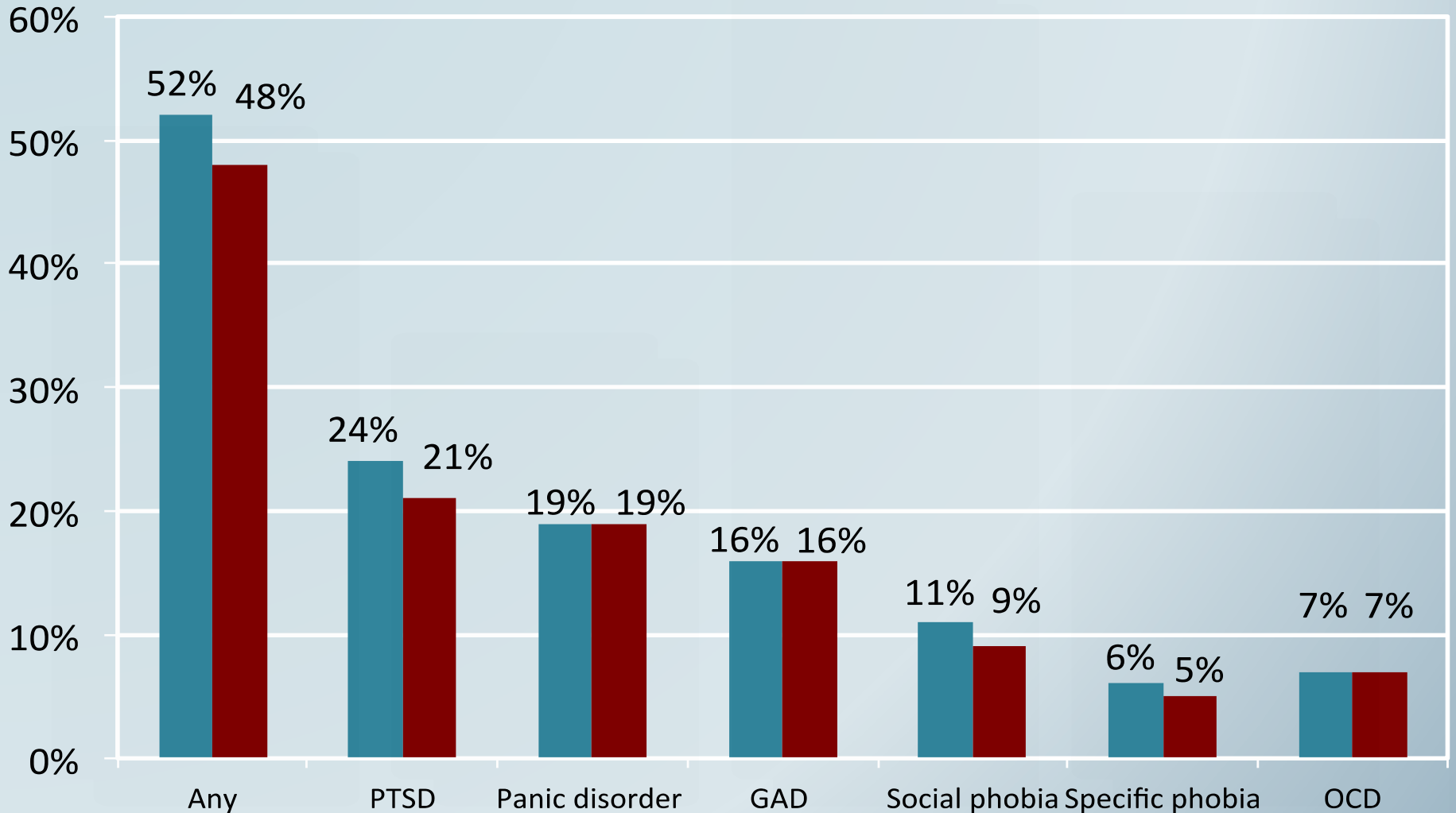
Barry et al., 2016, J Clin Psychiatry

Mood Disorders



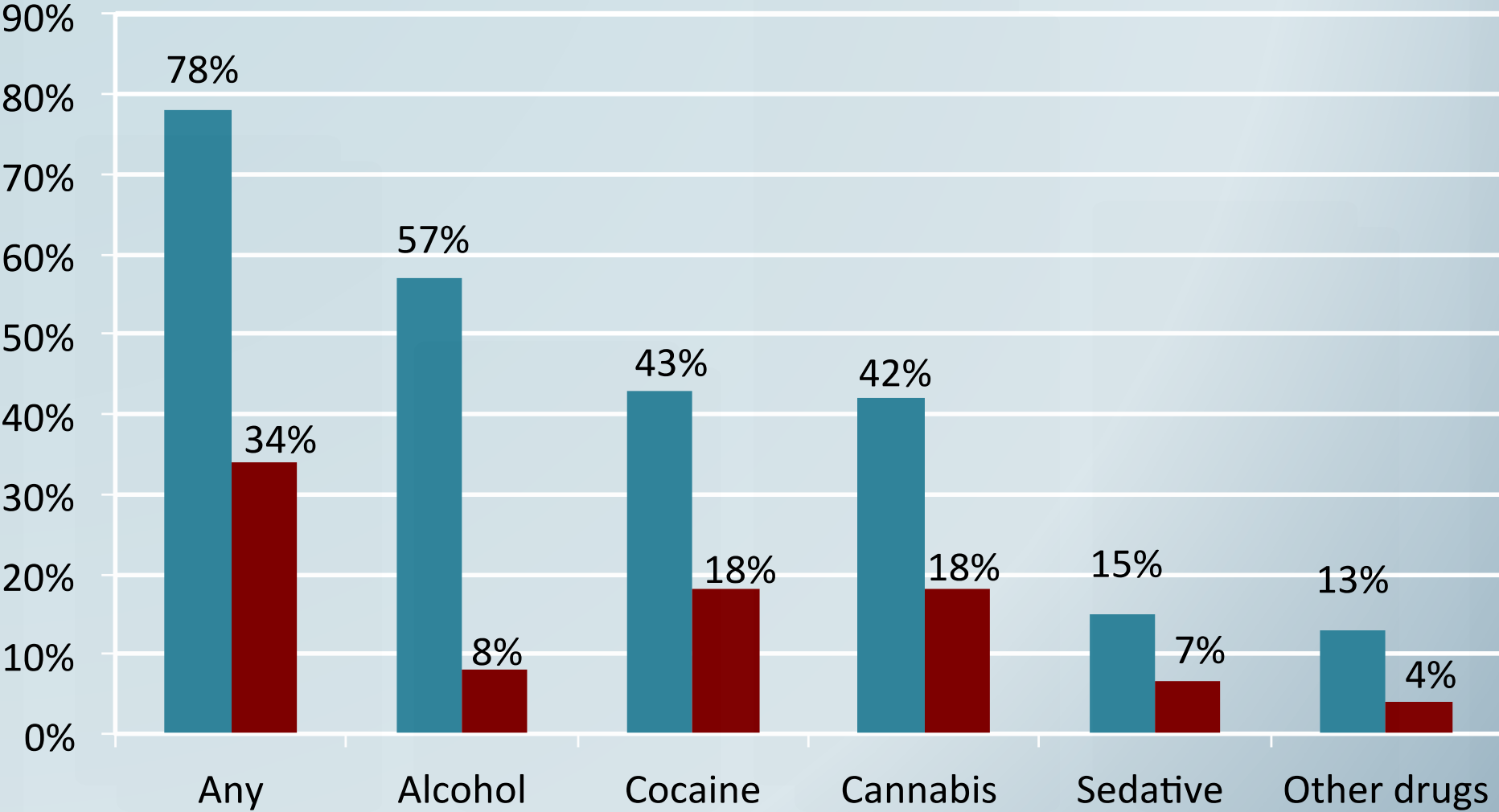
Anxiety Disorders

■ Lifetime ■ Current

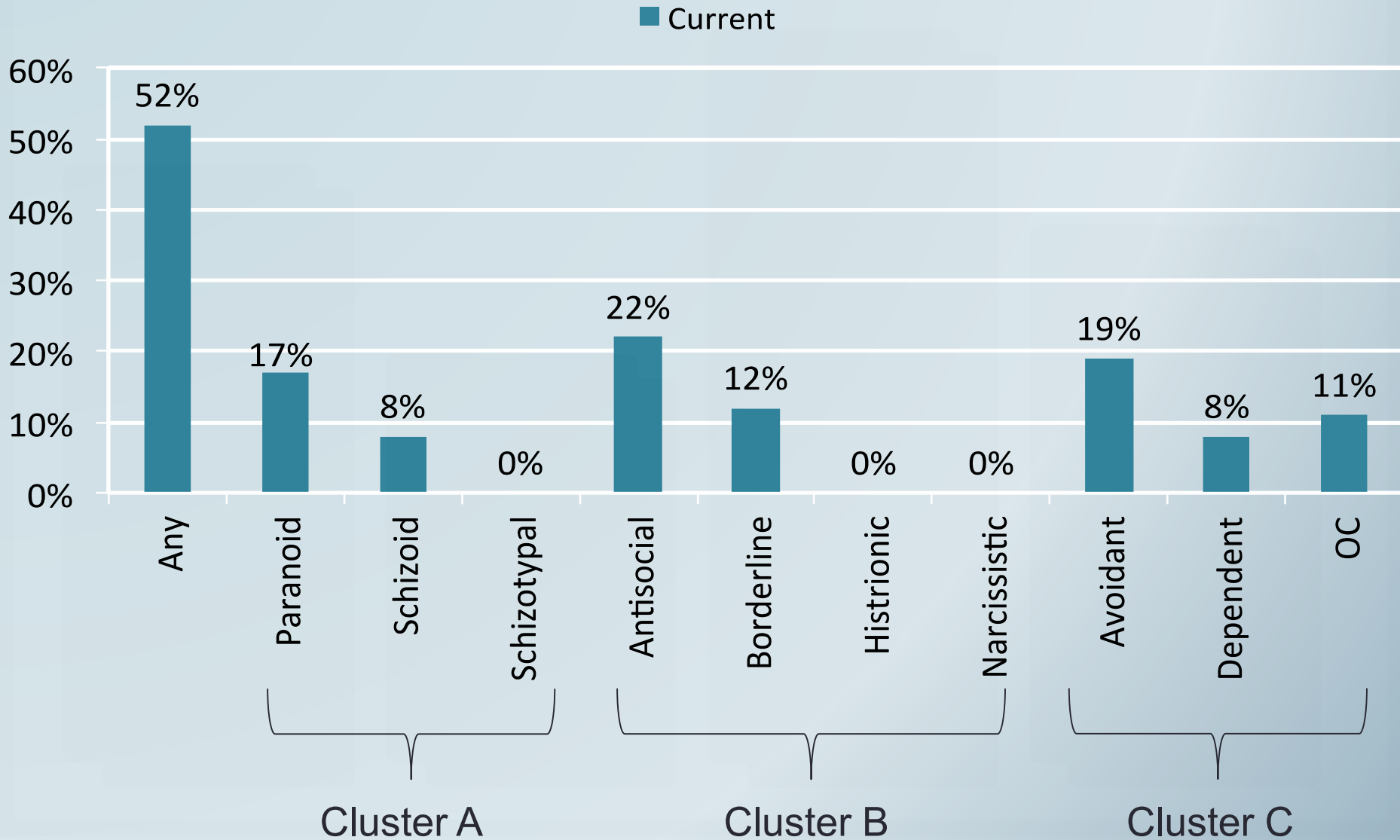


Non-Opioid Substance Use Disorders

■ Lifetime ■ Current



Personality Disorders



Current Mental Health Treatment

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

Predictors of Characteristic Pain Intensity

| | R^2 | ΔR^2 | ΔF | P | β | p |
|---------------------------------------|-------|--------------|------------|--------|---------|------------------|
| Demographics and pain status | .31 | .31 | 11.67 | <0.001 | | |
| Sex | | | | | -.10 | 0.259 |
| Age | | | | | .04 | 0.679 |
| Employment status | | | | | .24 | 0.010 |
| Pain status | | | | | .40 | <0.001 |
| BSI-18 | .42 | .11 | 9.18 | <0.001 | | |
| Somatization | | | | | .44 | <0.001 |
| Depression | | | | | -.18 | 0.056 |
| Coping and catastrophizing | .55 | .14 | 4.85 | <0.001 | | |
| Diverting attention | | | | | -.20 | 0.057 |
| Catastrophizing | | | | | .38 | <0.001 |
| Ignoring sensations | | | | | .02 | 0.834 |
| Reinterpreting pain sensations | | | | | .08 | 0.426 |
| Coping self-statements | | | | | .05 | 0.598 |
| Praying-hoping | | | | | .17 | 0.053 |

Optimism

- In a study of 150 patients receiving MMT
 - Lower dispositional optimism was associated with current or lifetime history of chronic pain

Physical Activity

- Among 308 patients seeking MMT, 131 reported chronic pain
 - 20% of patients with chronic pain (vs 30% without) met recommended guidelines for physical activity
 - 25% of patients with chronic pain were interested in participating in an onsite exercise group

Are patients entering opioid agonist maintenance interested in onsite pain treatment?

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

Table 1. Barriers and facilitators to drug 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.

Table 2. Barriers and Facilitators to Implementing Office-Based Pain Management

| <i>THEMES</i> | <i>SUBTHEMES</i> | <i>EXAMPLES</i> |
|--|-----------------------------------|---|
| Physician factors | Pain assessment | Absence of physiological measures of pain intensity |
| | Expertise in pain management | Absence of formal training in pain management |
| | Expertise in POA | Difficulty broaching topic of medication abuse |
| | Co-existing disorders | Difficulty managing co-occurring psychiatric conditions |
| | Interest in pain management | Absence of interest in treating pain patients |
| | Aberrant behaviors | Patients' exclusive focus on opioid analgesics |
| | Prescribing opioid analgesics | Reluctance to over-prescribe opioids for pain relief |
| | Opioid agreements* | Specifying expectations about patient behaviors |
| | Continuity of care* | Enhanced patient compliance |
| Physicians' perceptions of patient factors | Physicians' response | Physicians not listening to patients' pain reports |
| | Attitudes to prescription opioids | Concern about addiction potential |
| | Cost | Concern about covering pain management costs |
| | Motivation | Patient diversion of prescription opioid medication |
| Logistical and systemic factors | Pain management referrals | Lack of appropriate pain management referrals |
| | Addiction referrals | Low patient compliance with referrals |
| | Diagnostic workup | Absence of sufficient diagnostic data |
| | Ancillary staff | Lack of confidence in ancillary staff's skills |
| | Time | Time spent completing paperwork |
| | Insurance coverage | Concern about pain management reimbursement |

Abbreviation: POA, pain and opioid addiction.

*Facilitators.

Next Step?



“He’s complaining of chest pain, shortness of breath, cramps and dizziness. Do you sell earplugs?”

Opioid Medication for Pain Relief

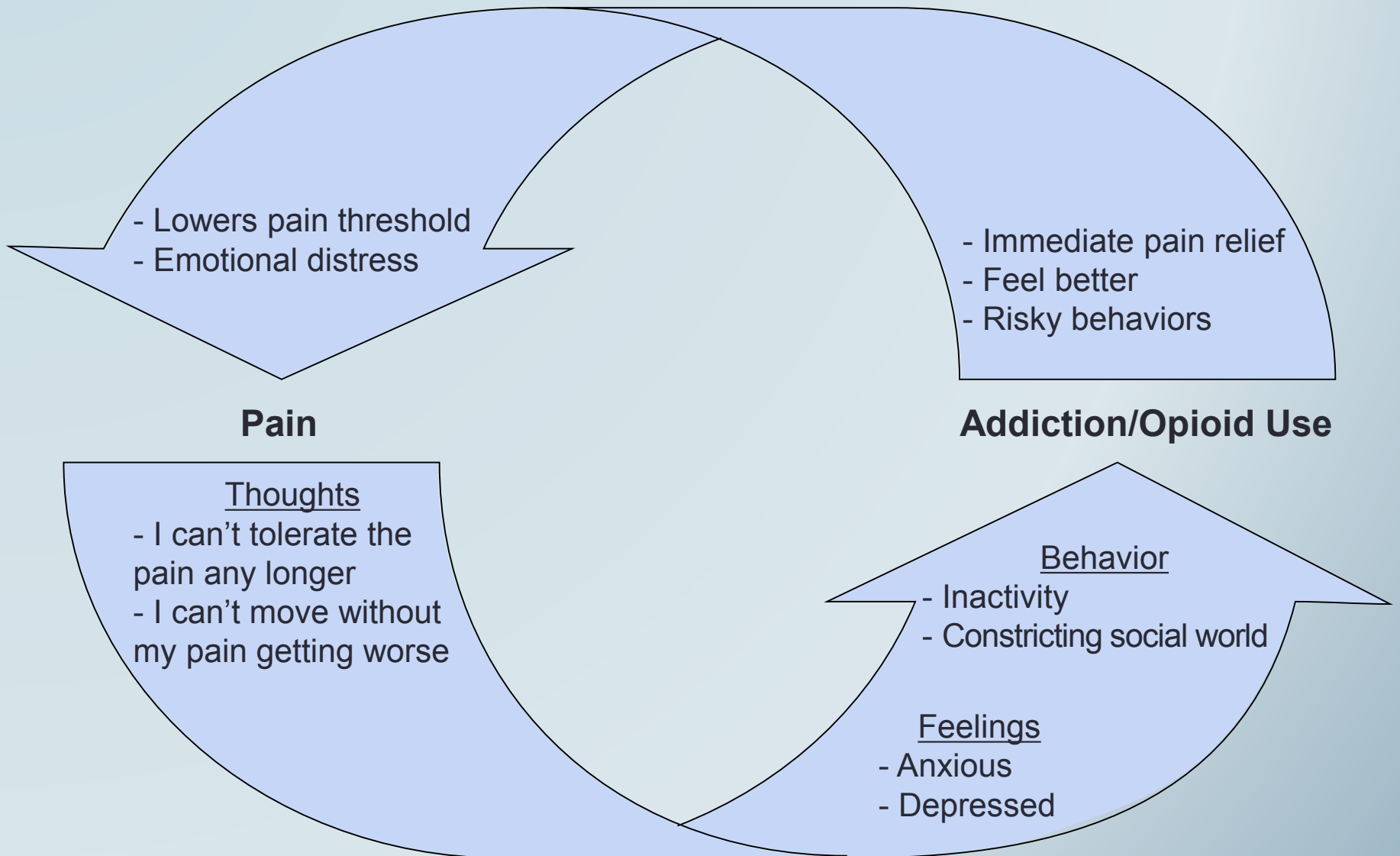
- Opioid medications
 - Cancer-related pain
 - Acute pain
- Opioids for chronic pain management
 - Efficacious?
 - Lose efficacy over time?
 - Addiction or misuse liability
- Even with tamper-resistant medications
 - How to promote self-management or functioning?
 - What to do with individuals addicted to opioids?

Integrated Treatment Approach

- Opioid agonist treatment (OAT; methadone, buprenorphine)
- Psychosocial treatment
- Cognitive-behavioral therapy (CBT)
 - Efficacious in separately treating chronic pain and SUDs
 - 3 pilot studies and 1 RCT have found support for CBT for chronic pain and substance-related disorders¹⁻⁴
- No trials have examined the efficacy of OAT with CBT for OUD and chronic pain⁵

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. Eilender et. Al., *Addict. Disord Their Treat*, 2016

Pain-Opoid Use Dysfunction Cycle



What skills are covered in CBT?

- CBT has modules that address problems found in patients with chronic pain and opioid use disorder
 - empirical support

Problem 1: Many patients have an acute model of pain

- Contributes to patient and provider frustration
- Promotes inappropriate treatments and behaviors
- CBT educates patients about the differences between acute vs. chronic pain and adopting a self-management approach

Problem 2: Many patients are inactive

- Contributes to deconditioning and pain worsening
- Promotes passivity and avoidance

Behavioral Activation

- Physical exercise
 - Walking
 - Swimming
 - Stretching
- Non-drug related pleasurable activity
- Each week, patient is prescribed both:
 - Paced exercise (steady engagement; not too much or too little)
 - Non-drug related pleasurable activities

Problem 3: Many patients have difficulties tolerating distress

- Contributes to relapse to illicit substances
- Contributes to inappropriate opioid medication use

Relaxation

- Deep breathing
- Progressive muscular relaxation
- Visualization

Coping with Pain and Cravings

- Distraction
 - Talk to a friend
 - Take a walk
- Positive self-talk
 - “I can get through this”
 - “I’ve done this before”
- Review of negative consequences
 - “The pain will still return if I do this”
 - “I’ll just feel worse if I do this”
- Urge surfing
 - Observe craving without getting entangled

Problem 4: Many patients catastrophize

- Pain signals dire outcome
- Promotes anxiety, depression, and lower QOL
- Contributes to inactivity

Catastrophizing

- From CBT perspective, our thoughts influence:
 - Behaviors (e.g., inactivity, drug use)
 - Mood/Feelings
 - Stress
- CBT can help patient recognize catastrophizing and other “thinking errors”
- Cognitive errors can be addressed
 - More realistic thoughts
 - Positive coping statements
 - Self-soothing

Problem 5: Many patients focus only on what's going wrong

- Promotes feelings of helplessness
- Promotes depression

Cognitive Restructuring

- Recognizing positive events
 - Something in life (e.g., nice weather, spouse)
 - Something done (e.g., starting treatment)
 - Keep a list of positive events (e.g., gratitude, accomplishments)
- Coping with negative events
 - Use problem solving to determine:
 - What was patient's role?
 - What can patient learn?
 - What are immediate and long-term solutions?
 - Move on, don't linger!

Problem 6: Many patients view illicit substance use as “just happening” or “beyond their control”

- Limits self-agency
- Decreases opportunity to learn from prior experiences

Functional Analysis

| Behavioral Chains and Triggers | Thoughts and Feelings | Behavior | Positive Consequences | Negative Consequences |
|---------------------------------------|--|---------------------|----------------------------------|----------------------------------|
| What sets me up to use? | What was I thinking? What was I feeling? | What did I do then? | What positive thing(s) happened? | What negative thing(s) happened? |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

What I plan to do differently next time:

Problem 7: Many patients are not assertive

- Contributes to unmet needs
- Promotes low self-efficacy/self-confidence

Assertiveness Skills

- Review communication styles
 - Passive
 - Aggressive
 - Passive-aggressive
 - Assertive
- Role-play assertive communication
- Focus on practical drug refusal skills

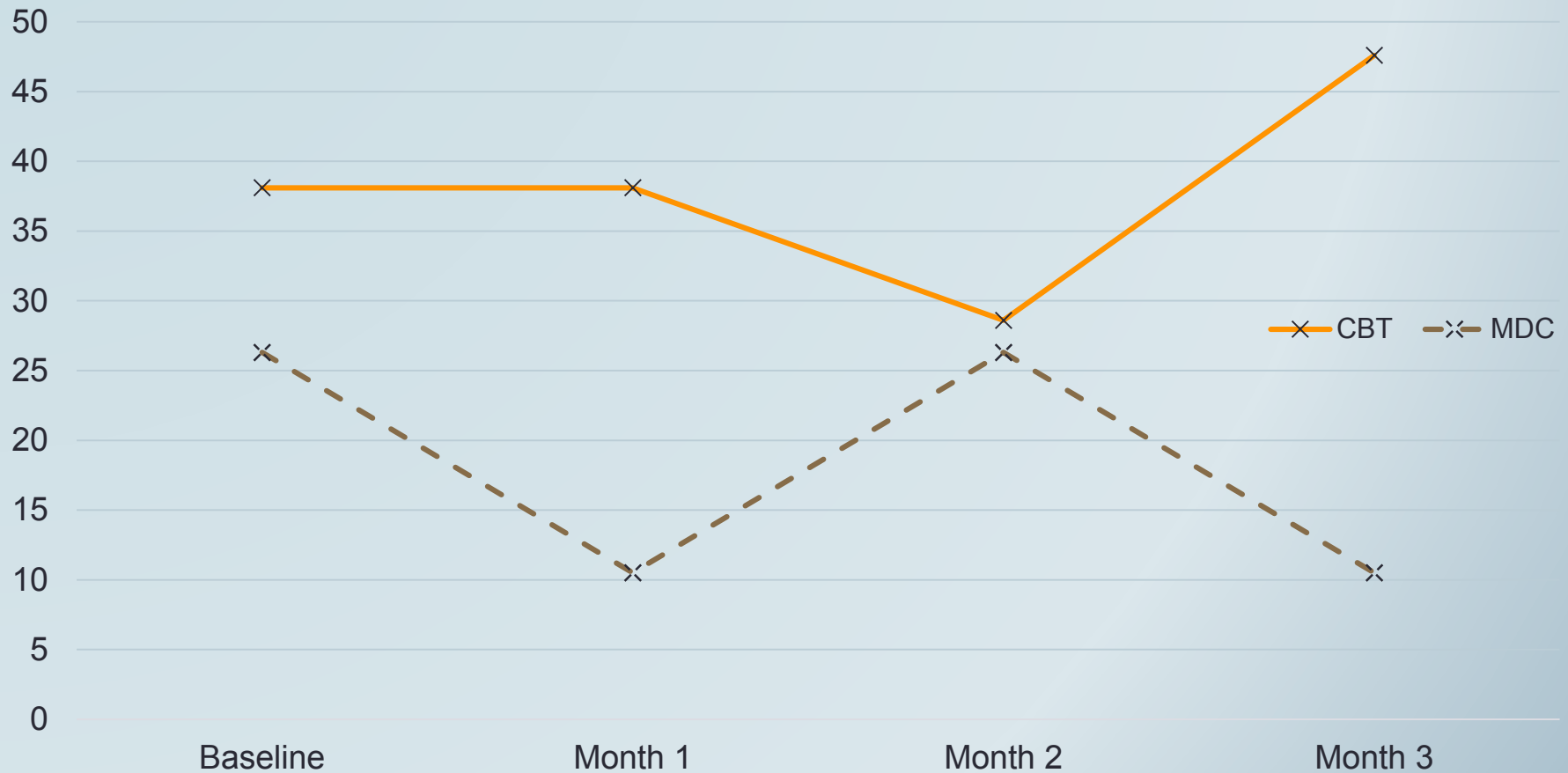
CBT Protocols

- Ten to twelve 50-minute sessions
- Sessions are structured
 - Beginning (15 min) – Middle (25 min) – End (10 min)
- Beginning: Review events of past week
 - Drug use and cravings; pain coping; quality of life
 - Homework assignment
- Middle: Introduce/Review a coping skill
- End: Assignments
 - Practice specific skills
 - Anticipate high-risk situations

Randomized Clinical Trials

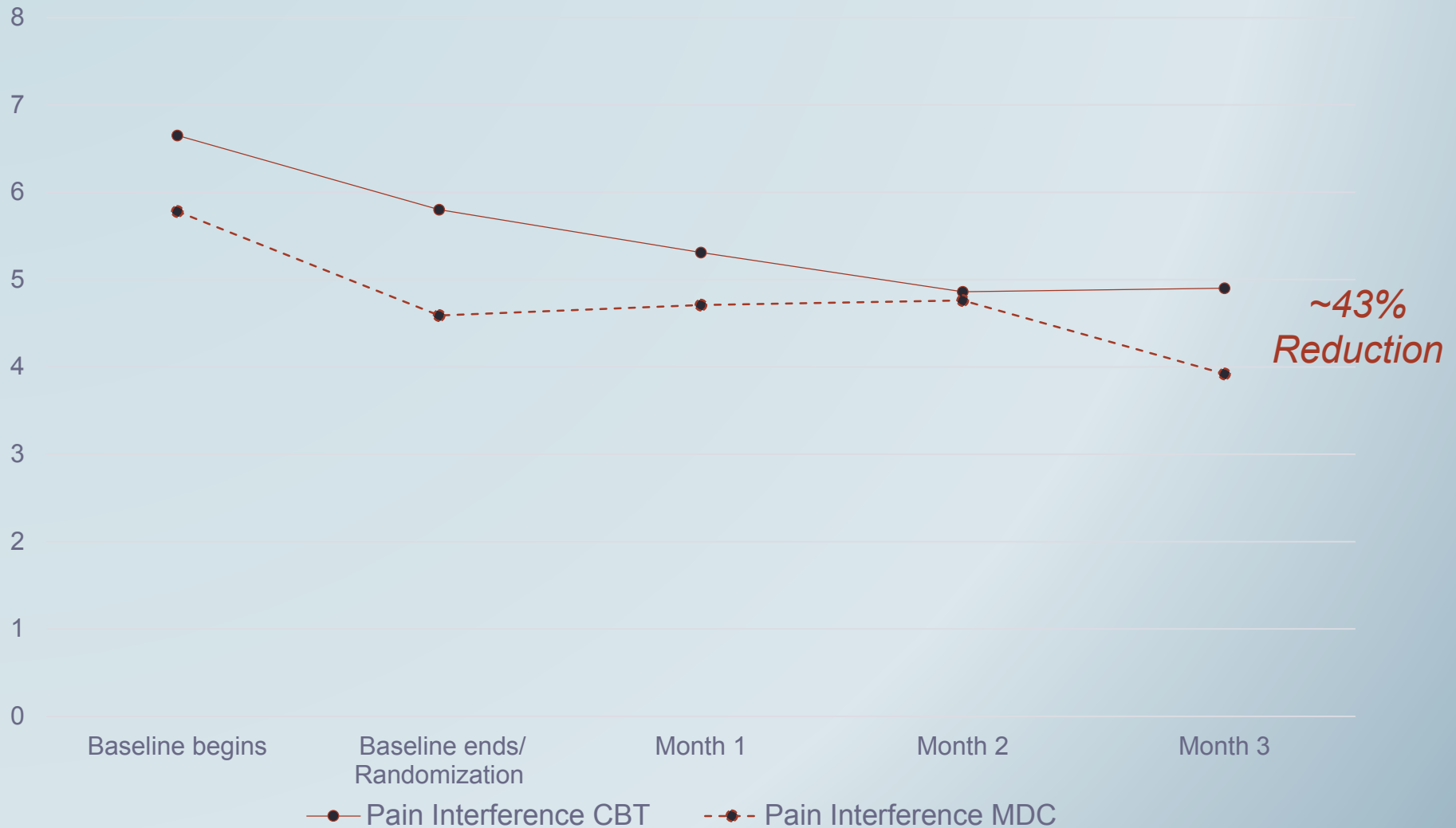
- Setting
 - Methadone Clinic
 - Sample Size
 - 40
 - Opioid Medication
 - Methadone
 - Counseling
 - CBT
 - Drug Counseling
- Setting
 - Office-based
 - Sample Size
 - 90
 - Opioid Medication
 - Buprenorphine/naloxone
 - Counseling
 - Physician Management (PM)
 - PM + CBT
 - PM + Health Education

% ABSTINENT FROM NONMEDICAL OPIOID USE OVER TIME¹



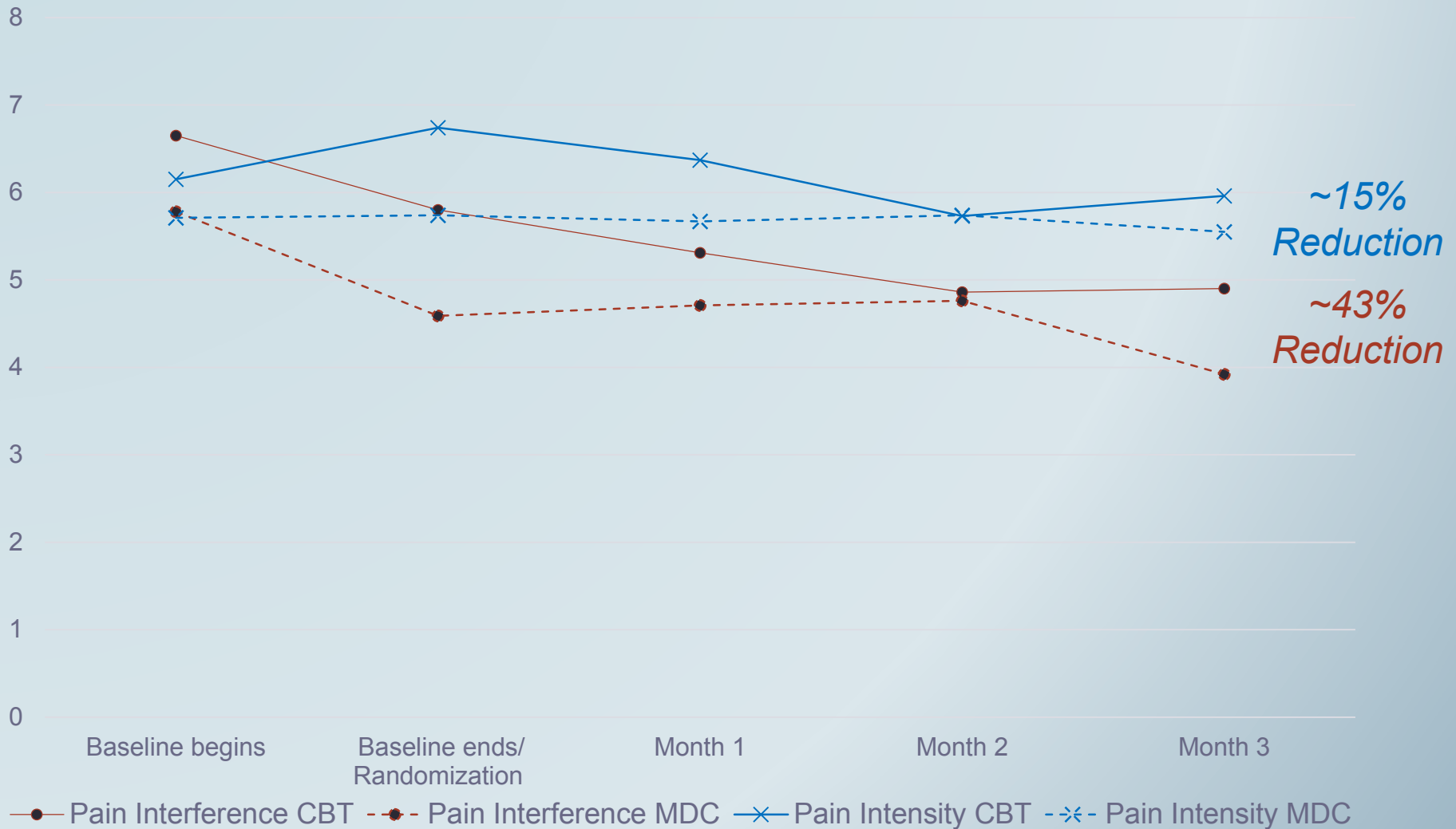
¹ Rate at baseline is based on 3 consecutive weekly urine screens; all other rates are based on 4 consecutive weekly urine screens. Rates (on Y-axis) refer to percentages.

PAIN SCORES OVER TIME¹



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

PAIN SCORES OVER TIME¹



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

Addiction Counselors

- Among nonpharmacological treatments for chronic pain, CBT had highest ratings for:
 - Perceived efficacy
 - Willingness to refer

Training Addiction Counselors

- 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

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

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

- Examined feasibility and acceptability
 - Walking meditation
 - Group singing
 - Psychoeducation with goal setting
 - Relaxation training

Summary and Conclusions

- Chronic pain and opioid use disorder
 - Prevalent
 - Elevated psychopathology
 - Provider frustration
 - Paucity of evidence-based integrated approaches
 - Consider biopsychosocial model when implementing pain management
- Integrated treatment
 - Safe, feasible, and acceptable
 - Initial investigations of efficacy are promising
 - Can be provided in groups
 - Counselors are interested and can be trained
 - Need more research