

Association Between Nonpharmacological Pain Treatment Utilization and Opioid Tapering Among Veterans Receiving Long-Term Opioid Therapy

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Steven Zeliadt, PhD MPH; VA Puget Sound Health Care System

Outline

Background

OPCC&CT/Whole Health System of Care

Services and Resources

CIH modalities and utilization

Methods to identify CIH

OPCC&CT pilot study

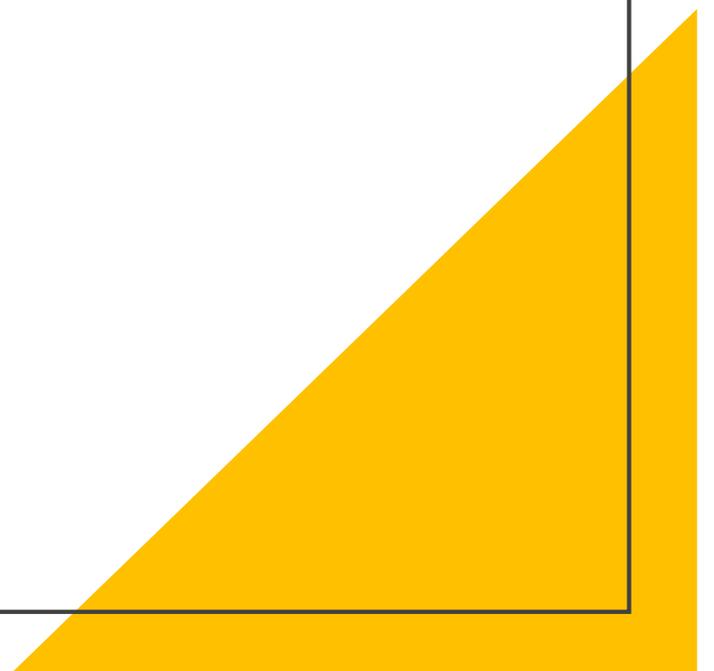
Aims

Methods

Results

Limitations

Conclusion and Future Research

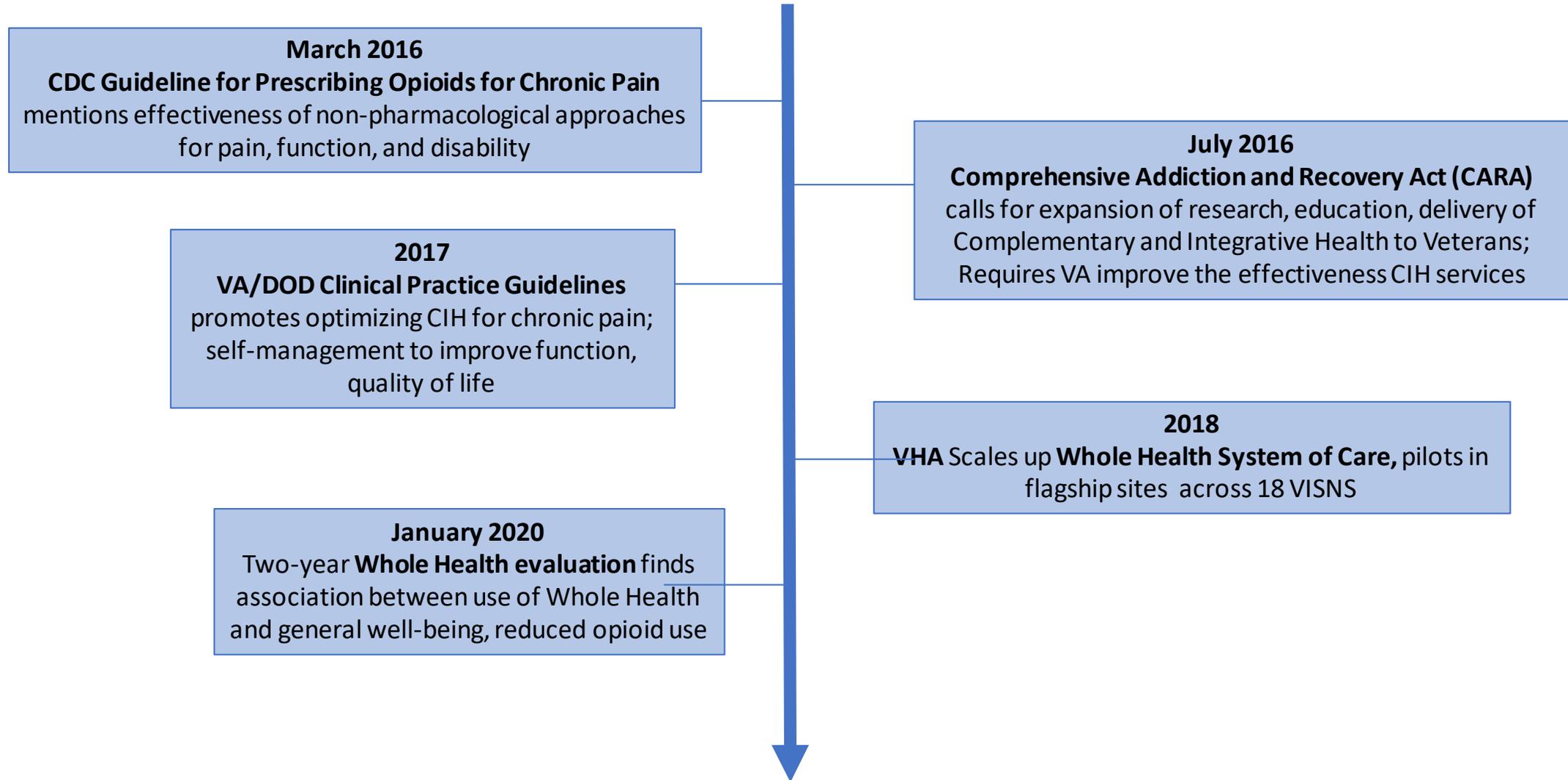


Poll slide #1

As a provider, how often do you refer patients on long-term opioid therapy to Complementary and Integrative Health services?

- A. Weekly
- B. Monthly
- C. Several times per year
- D. Rarely or never
- E. I do not work with patients on long-term opioid therapy
- F. Complementary and Integrative Health services are not available to my patients

Movement toward an adjunctive role for Whole Health services in opioid therapy de-implementation



Patient Centered Care & Cultural Transformation (OPCC&CT) - IHCC-home (sharepoint.com)

Live Whole Health. Patient Centered Care & Cultural Transformation (OPCC&CT) IHCC-home Search this site

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Integrative Health Coordinating Center

Welcome to the Integrative Health Coordinating Center (IHCC) SharePoint page!

In alignment with memorandum "COVID-19: Protecting Veterans and the Department of Veterans Affairs (VA) Workforce by Leveraging Video Telehealth from VA Clinics and Home" and as sites are transitioning in person Whole Health services to online and virtual offerings, we are continuing to compile a list of approved mobile and online experiential resources. These additional experiential resources have been identified by the VA Integrative Health Coordinating Center as optional online, mobile apps, video libraries and audio libraries, that will allow the user to experience various complementary and integrative health approaches virtually. In addition, TeleWholeHealth data suggests that we have approximately 75 VAMCs in FY20 Q1, offering or receiving whole health services via telehealth. Please reach out to your Facility Telehealth Coordinator to find out how face to face Whole Health offerings can be offered virtually via telehealth. The list of resources can be found on the [Whole Health website under Mobile Apps and Online Tools](#) or as a Word document on SharePoint [here](#). In addition, the [National Center for PTSD](#) has developed several resources for managing stress and anxiety associated with the COVID-19 virus outbreak. The [Circle of Health](#) includes a number of resources that can be used by Veterans, caregivers, employees or anyone! Finally, there is an Employee Whole Health Virtual Stress Management Program that is available [here](#).

For additional information on what IHCC is doing, check out the [IHCC Fact Sheet](#). For information and resources related to the **Whole Health System** visit the [Whole Health System Overview Page](#)

Resources for List 1 Approaches (plus Chiropractic Care)

Document Library	Listserv/Email (Email Lana.frankenfield@va.gov to be added)	National Subject Matter Expert
Acupuncture, Battlefield Acupuncture (BFA), Battlefield Auricular Acupressure (BAA)	VHAOPCC&CTAcupuncture@va.gov	Juli.Olson@va.gov (BFA) VHABFASupport@va.gov
Biofeedback	VHAOPCC&CTBiofeedback@va.gov	David.Gaffney@va.gov
Clinical Hypnosis	VHAOPCC&CTClinicalHypnosis@va.gov	David.Gaffney@va.gov
Guided Imagery	VHAOPCC&CTGuidedImagery@va.gov	David.Gaffney@va.gov
Massage Therapy	VHAOPCC&CTMassageTherapy@va.gov	Sharon.Weinstein@va.gov
Meditation	VHAOPCC&CTMeditation@va.gov	Kavitha.Reddy@va.gov or Alison.Whitehead@va.gov
Tai Chi / Qi Gong	VHAOPCC&CTTaiChiQiGong@va.gov	Alison.Whitehead@va.gov
Yoga	VHAOPCC&CTYoga@va.gov	Alison.Whitehead@va.gov
Chiropractic Care	***	Anthony.Lisi@va.gov

CIHEC

Complementary and Integrative
Health Evaluation Center



**The VA Office of Patient Centered Care and Cultural Transformation's
and
VA Complementary and Integrative Health Evaluation Center's**

**Library of Research Articles
on Veterans and Complementary and Integrative Health
Therapies**

April, 2020



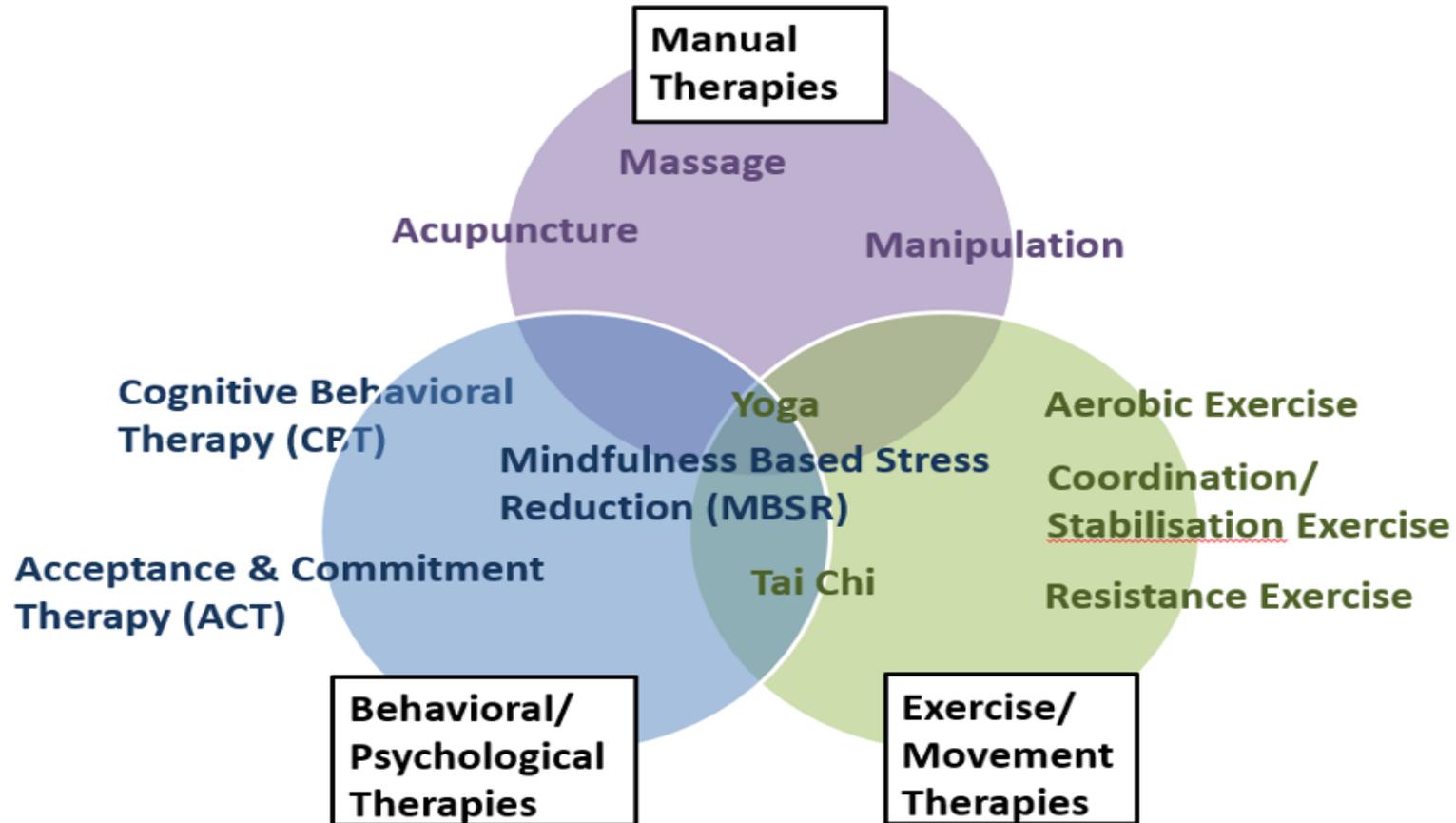
CIH Therapies

Acupuncture.....	4
Battlefield Acupuncture (BFA).....	13
Biofeedback	21
Chiropractic Care	28
Guided Imagery	41
Clinical Hypnosis/Hypnotherapy.....	42
Massage Therapy (Therapeutic Massage)	45
Meditation (including mantram repetition).....	51
Mindfulness-based Stress Reduction (MBSR)	65
Mindfulness (other than MBSR)	73
Tai chi/Qi gong	85
Yoga.....	89

CIH Health Outcomes

Pain	107
Anxiety.....	149
Depression.....	154
PTSD.....	159
Substance/Opioid Abuse.....	191
Stress & Wellbeing	199
Insomnia.....	203
Suicide.....	206
Veteran caregiver and VA employee Wellbeing	208

2016 VA State of the Art Conference on Evidence for Non-Pharmacological Approaches for MSK Pain



QUERI “Evidence Maps”

<https://www.research.va.gov/pubs/varqu/spring2015/spring15-10.cfm>

Department of Veterans Affairs
Health Services Research & Development Service

Evidence-based Synthesis Program

QUERI

Evidence Map of Tai Chi

September 2014

Department of Veterans Affairs
Health Services Research & Development Service

Evidence-based Synthesis Program

QUERI

Evidence Map of Mindfulness

October 2014

Department of Veterans Affairs
Health Services Research & Development Service

Evidence-based Synthesis Program

QUERI

Evidence Map of Acupuncture

January 2014

Department of Veterans Affairs
Health Services Research & Development Service

Evidence-based Synthesis Program

QUERI

The Effectiveness and Harms of Spinal Manipulative Therapy for the Treatment of Acute Neck and Lower Back Pain: A Systematic Review

December 2014

Department of Veterans Affairs
Health Services Research & Development Service

Evidence-based Synthesis Program

QUERI

Massage for Pain: An Evidence Map

September 2016

Prepared for:
Department of Veterans Affairs
Veterans Health Administration
Quality Enhancement Research Initiative
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CIH Approach	Most Frequently Reported Reason for Using CIH Approach n (%)	CIH Approach was Moderately/Very Helpful n (%)
Acupuncture (n = 107)	For pain: 99 (93%)	54 (54%)
Battlefield Acup. (n = 13)	For pain: 12 (92%)	5 (42%)
Chiropractic (n = 241)	For pain: 221 (92%)	168 (76%)
Acupressure (n = 93)	For pain: 76 (82%)	43 (57%)
Massage Therapy (n = 281)	For pain: 210 (75%)	161 (77%)
Reflexology (n = 75)	For pain: 52 (69%)	20 (38%)
Healing Touch/ Reiki/ Ther. Touch (n = 61)	For pain: 42 (69%)	23 (55%)
Movement Therapy (n = 112)	For pain: 73 (65%)	41 (56%)
Biofeedback (n = 43)	For pain: 20 (46%)	10 (50%)

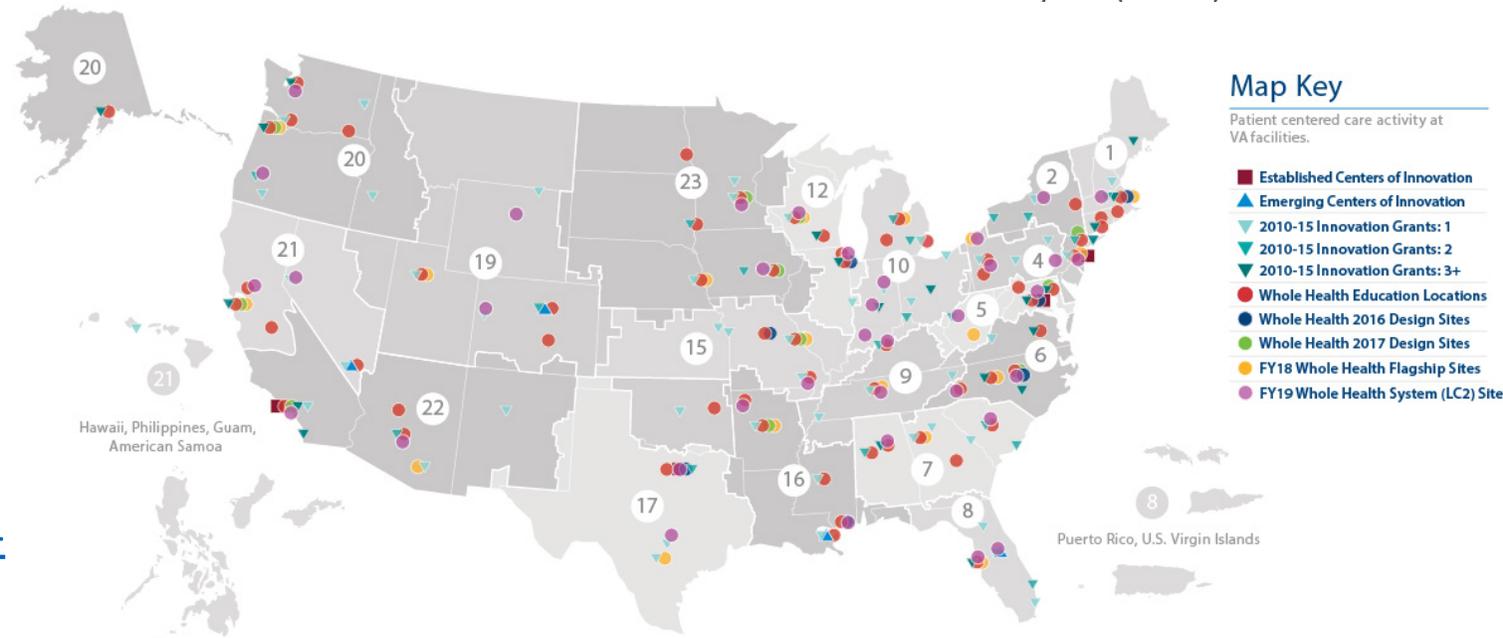
CARA Act 2016 & Whole Health Flagship Pilot

S.524 - Comprehensive Addiction and Recovery Act of 2016 - Subtitle C— Complementary and Integrative Health (CIH)

- **Sec. 931** Establishment of “Creating Options for Veterans’ Expedited Recovery” Commission
- **Sec. 932** Expansion of research and education on and delivery of CIH to veterans.
 - Development of plan to expand research, education, and delivery of CIH to Veterans (within 180 days)
- **Sec. 933.** Pilot program on integration of CIH and related issues for veterans and family members of veterans.

<https://www.congress.gov/bill/114th-congress/senate-bill/524/text>

- **VISN 1:** VA Boston Health Care System
- **VISN 2:** VA New Jersey Health Care System (East Orange)
- **VISN 4:** Erie VA Medical Center
- **VISN 5:** Beckley VA Medical Center
- **VISN 6:** W. G. (Bill) Hefner VA Medical Center (Salisbury)
- **VISN 7:** Atlanta VA Medical Center
- **VISN 8:** Tampa VA Medical Center
- **VISN 9:** Tennessee Valley Health Care System
- **VISN 10:** Aleda E. Lutz VA Medical Center (Saginaw)
- **VISN 12:** Tomah VA Medical Center
- **VISN 15:** St. Louis VA Health Care System
- **VISN 16:** Central Arkansas Veterans Healthcare System (Little Rock)
- **VISN 17:** South Texas Health Care System (San Antonio)
- **VISN 19:** Salt Lake City VA Medical Center
- **VISN 20:** VA Portland Health Care System
- **VISN 21:** Palo Alto VA Medical Center
- **VISN 22:** Tucson VA Medical Center
- **VISN 23:** VA Nebraska-Western Iowa Health Care System (Omaha)



Flagship Evaluation Report for CARA

VA » Health Care » Whole Health » Evidence-Based Research

Whole Health

▼ Whole Health
▶ More Health Care

QUICK LINKS

Hospital Locator
Zip Code Go

Health Programs

Protect Your Health

A-Z Health Topics

 **Veterans Crisis Line**
1-800-273-8255 PRESS 1

 **My healthvet**
My Health, My Care: 24/7 Access to VA

 **eBenefits**
My Gateway to Benefit Information

Evidence-Based Research

A challenge in complementary and integrative health is examining the effectiveness of approaches that have not been tested through formal research. VA researchers are conducting studies to determine which approaches are truly safe and effective. This information can help clinicians and patients make informed decisions about treatment options when creating Personal Health Plans.

The September 2020 Medical Care Supplement titled “The Implementation of Complementary and Integrative Health Therapies in the Veterans Health Administration,” includes 11 papers and commentaries on VA’s progress in implementing and evaluating the impact of CIH approaches on Veterans. This special issue documents progress toward implementing CIH approaches throughout the VA healthcare system as part of the VA’ transformation to a Whole Health System of care that empowers and equips both Veterans and VA staff members to take charge of their health and live their life to the fullest. Various OPCC&CT staff along with field partners contributed to the research and commentaries. [Read the special supplement here now.](#)

- Library of Research Articles on Veterans and CIH Therapies +
- Whole Health Flagship Site Evaluation: VA Center for the Evaluation of Patient Centered Care (EPCC) +
- Registry of Current Research on Veterans and CIH Therapies and Chiropractic Care +
- Evidence Maps +

 Center for Evaluating Patient Centered Care in VA
QUERI Partnered Evaluation Initiative

 Live Whole Health.

 VA HEALTH CARE
Defining EXCELLENCE in the 21st Century

Whole Health System of Care Evaluation – A Progress Report on Outcomes of the WHS Pilot at 18 Flagship Sites

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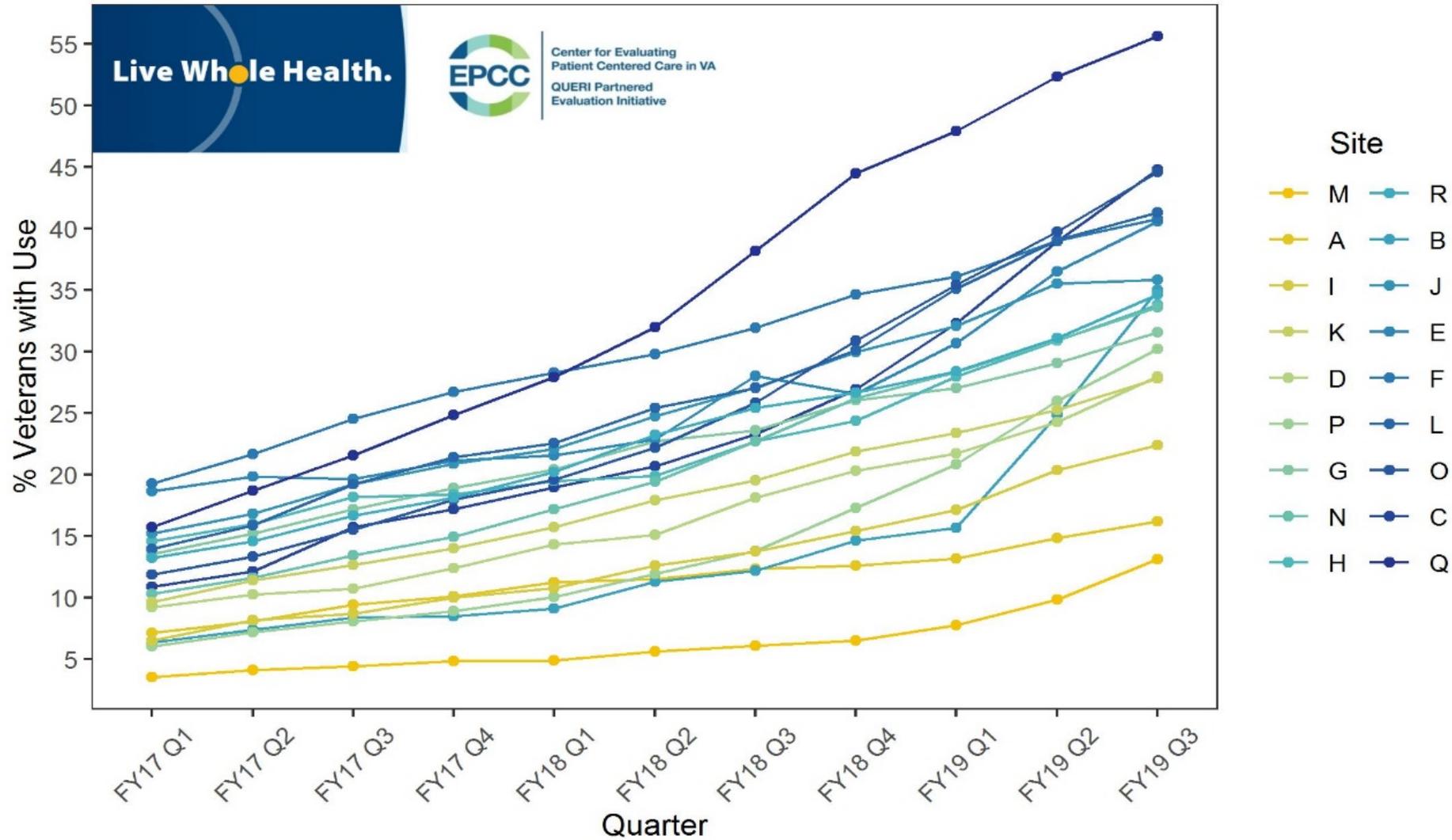
¹ VA Center for Evaluating Patient-Centered Care in VA (EPCC-VA)
² VA Center for Healthcare Organization and Implementation Research Bedford/Boston, MA
³ VA Center for Veteran-Centered & Value-Driven Care, Seattle, WA/Denver, CO
⁴ Boston University School of Public Health, Department of Health Law, Policy & Management
⁵ Boston University School of Medicine, Department of General Internal Medicine
⁶ University of Washington School of Public Health, Department of Health Services

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February 18, 2020

<https://www.va.gov/WHOLEHEALTH/professional-resources/clinician-tools/Evidence-Based-Research.asp>

Whole Health Patients – Cumulative Use During Flagship Implementation



National Compendium



Compendium on Use of Complementary and Integrative Health Therapies and Chiropractic Care at the VA

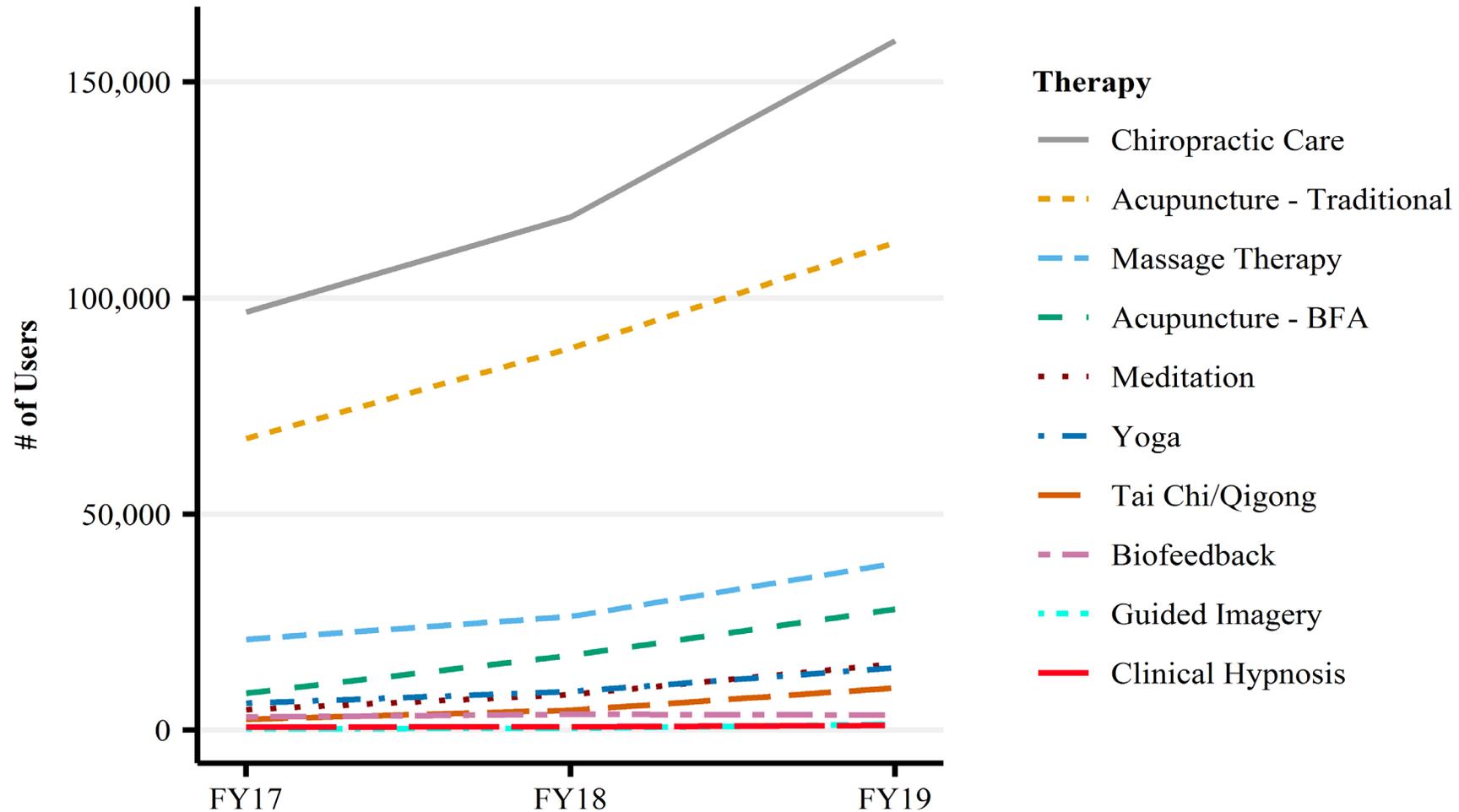
Volume 1:

Use and Characteristics of Users, Fiscal Years 2017-2019

October 2020

Therapy (FY19)	# of Users	# of Visits
Any Therapy	302,296	2,792,653
Chiropractic Care	159,506	1,224,324
Acupuncture - Traditional	112,826	868,728
Acupuncture - BFA	27,990	79,911
Massage Therapy	38,582	386,828
Meditation	15,317	60,866
Yoga	14,424	92,163
Tai Chi/Qigong	9,806	62,038
Biofeedback	3,534	12,051
Guided Imagery	1,340	3,209
Clinical Hypnosis	1,138	2,535

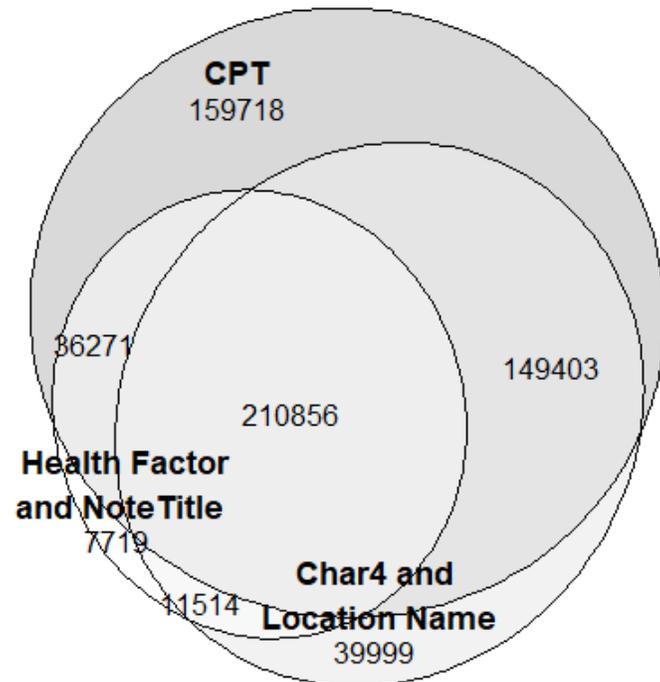
Increasing National Use



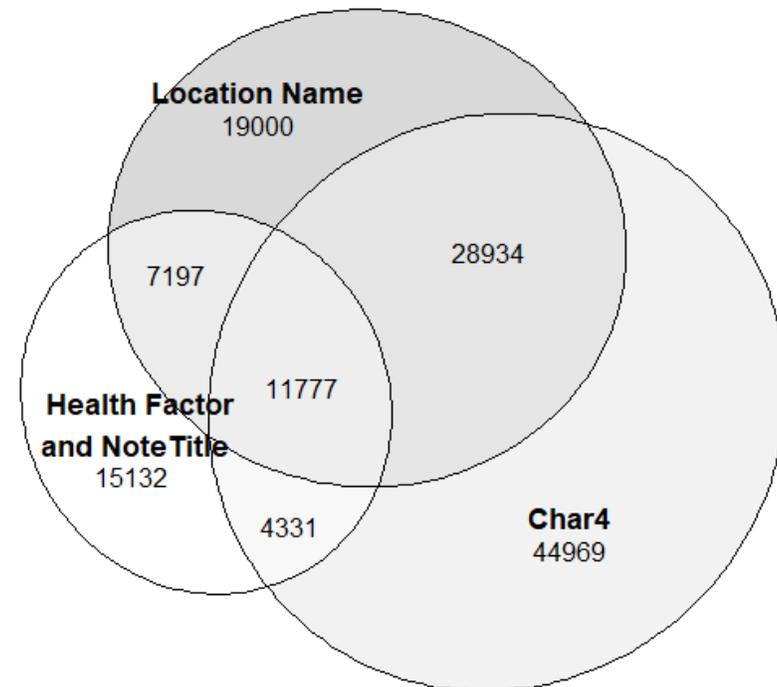
Identifying CIH Use in EHR

- VERA (Veterans Equitable Resource Allocation) coding incentives
- Combine information from CPT codes, VA accounting codes (Char4, stop codes), Healthfactors, clinic names, and clinic notes to find utilization
- Each therapy has a unique coding pattern - continually evolving

Acupuncture



Meditation



What are the patterns of CIH use among Veterans on long-term opioid therapy?

How is CIH use associated with opioid dose and tapering?

CIH Use and Opioid Prescription among Veterans using Long-Term Opioid Therapy for Pain

VA Connecticut

- Anne C. Black, PhD
- William C. Becker, MD
- Robert D. Kerns, PhD
- Rixin Wang, PhD
- Melissa Skanderson, MSW

VA Puget Sound

- Steven B. Zeliadt, PhD
- Hannah Gelman, PhD
- Jamie H. Douglas, MA

Live Whole Health.

VA



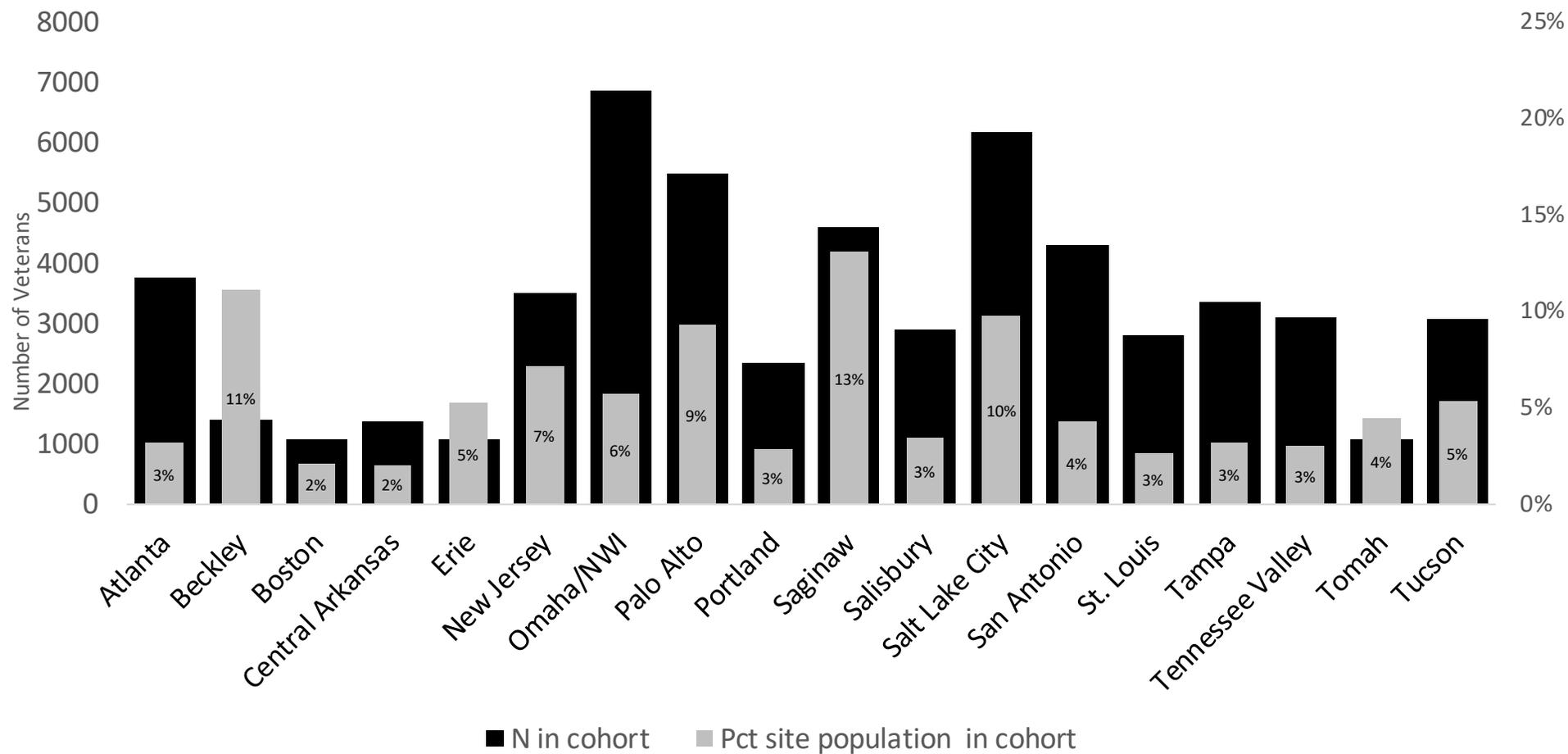
U.S. Department of Veterans Affairs
Veterans Health Administration

Aims

- Define cohort of Veterans prescribed LTOT for chronic pain at Whole Health flagship sites
- Describe CIH utilization in the context of LTOT
- Quantify patterns of LTOT tapering
- Assess association between LTOT tapering and CIH utilization

Cohort: 58,119 Veterans met criteria for long-term opioid therapy (LTOT) between 1/1/2018 and 2/28/2019 at one of 18 Whole Health Flagship VA Medical Centers

LTOT: 90 or more consecutive days, allowing for 30 days between refills



	%/Mean(SD)
Male	92.85
Age	64.16 (12.02)
Married	58.79
Race	
Black or African-American	11.75
White	81.26
Other Race or Multi Race	1.97
Missing/Unknown	4.98
Hispanic or Latino	3.69

Baseline pain intensity (NRS)	4.10 (3.15)
Baseline pain intensity ≥ 4	58.39
Chronic pain (2 or more NRS ≥ 4 past yr)	61.03
Mental health diagnosis	
Any mental health diagnosis	42.08
Anxiety	16.04
Depression	24.13
PTSD	22.47
Chronic disease	
Obesity	18.74
Diabetes	36.25
COPD	23.96
Cardiovascular disease	27.97

Opioid prescription

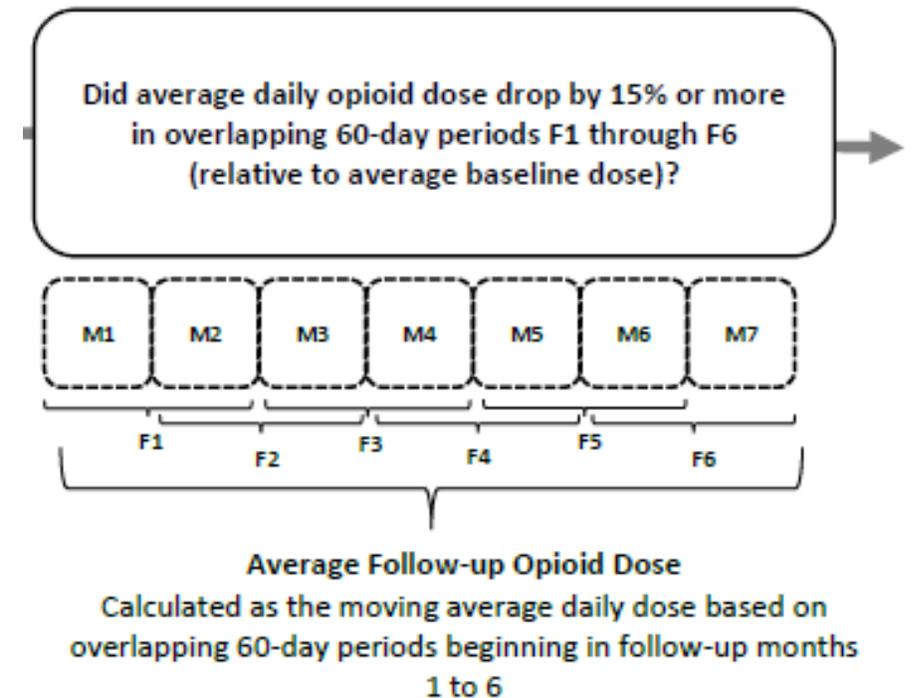
- data extracted from EHR pharmacy records
- mean mg morphine-equivalent daily dose (MEDD) calculated for the baseline LTOT period, each 30-day period
- days with no prescription averaged into the MEDD calculation as 0 mg
- 30 day periods of no prescription assumed 0 mg if date precedes latest healthcare utilization

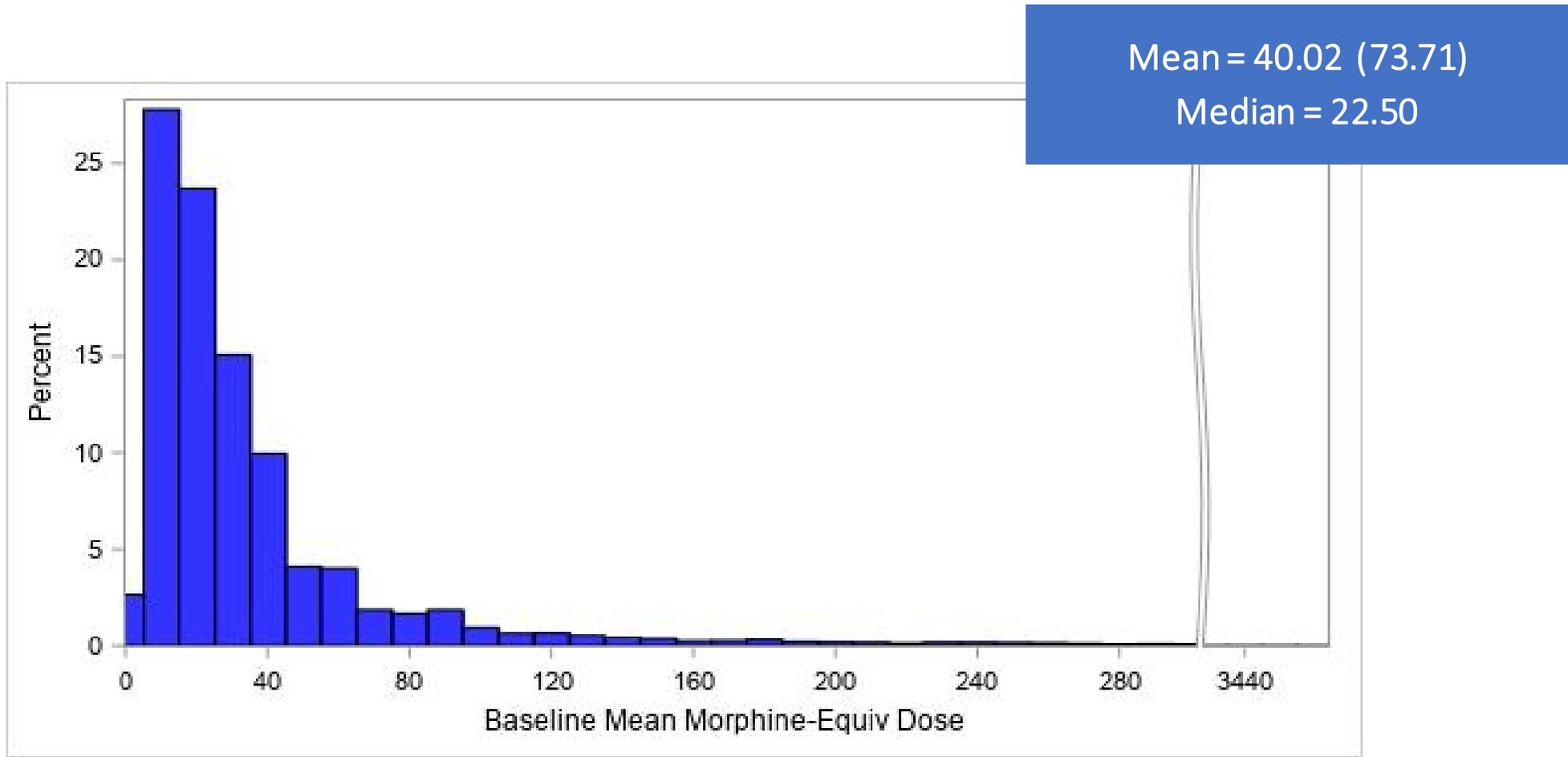
Opioid tapering, dichotomous

- moving average mg MEDD calculated from “overlapping 60-day periods” (Fenton et al., 2017)
- Mean reduction of $\geq 15\%$ from the baseline MEDD in the 2-month period, with no increase in MEDD of $\geq 10\%$ over baseline for any 2-month average

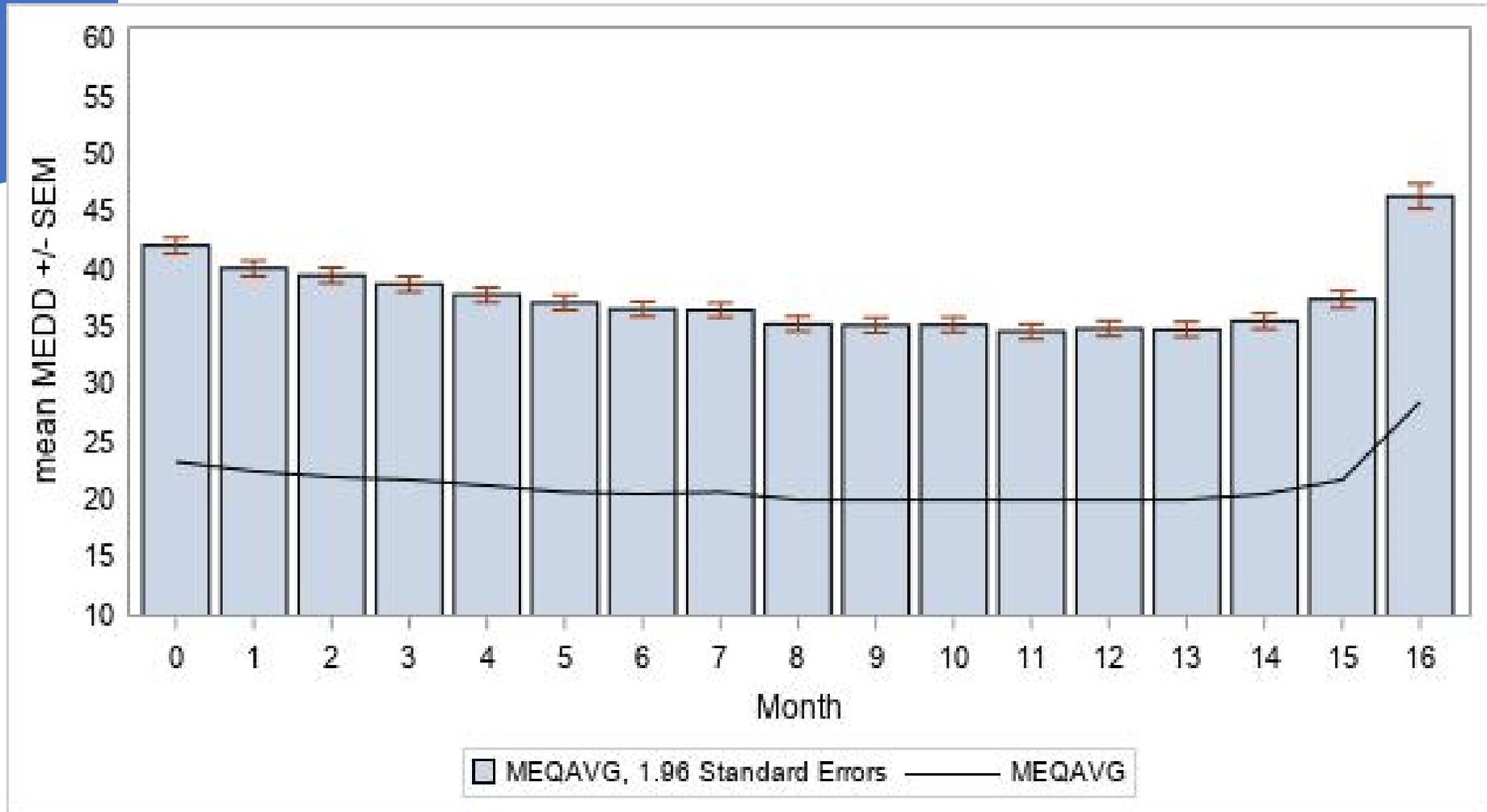
Opioid tapering, slope

- slope of moving average mg MEDD

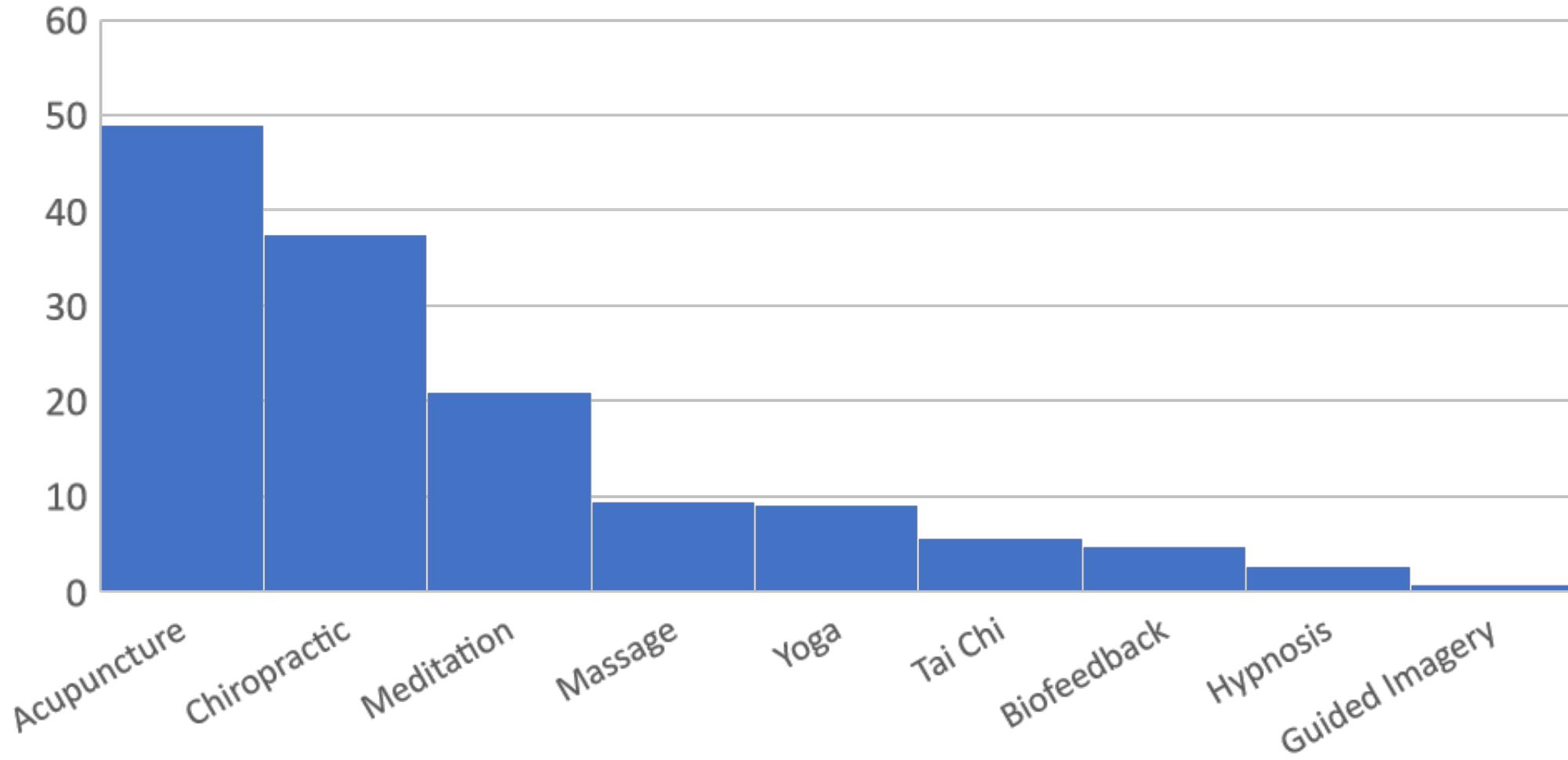




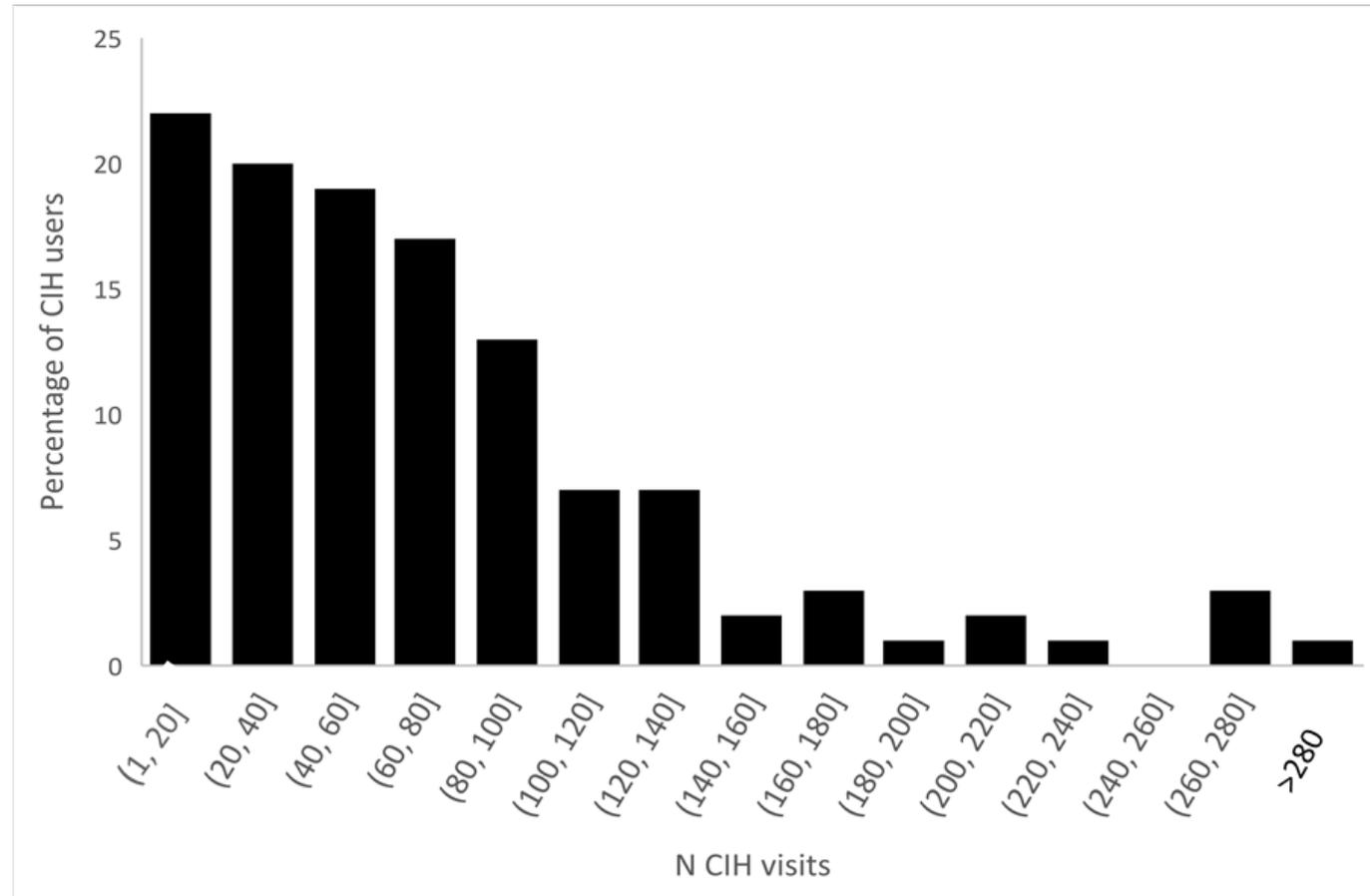
42.48% of Veterans achieved $\geq 15\%$ taper in study period



13.76% of cohort used any CIH. The most common modalities were Acupuncture and Chiropractic care



Frequency of CIH visits over 2 years varied substantially



Covariates of CIH use

Female

African-American

Hispanic

Younger age

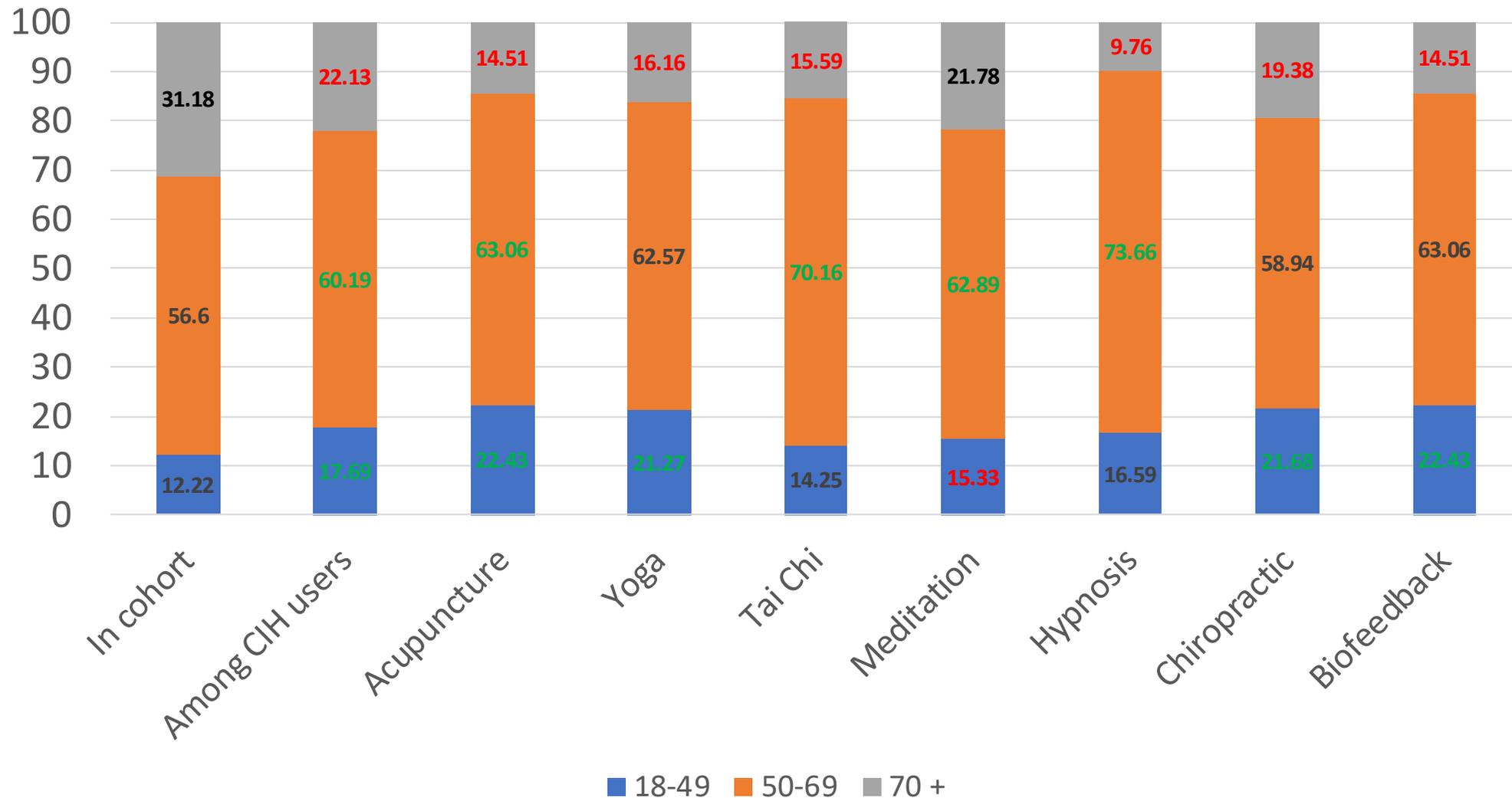
Mental health diagnosis

Diagnosis of obesity

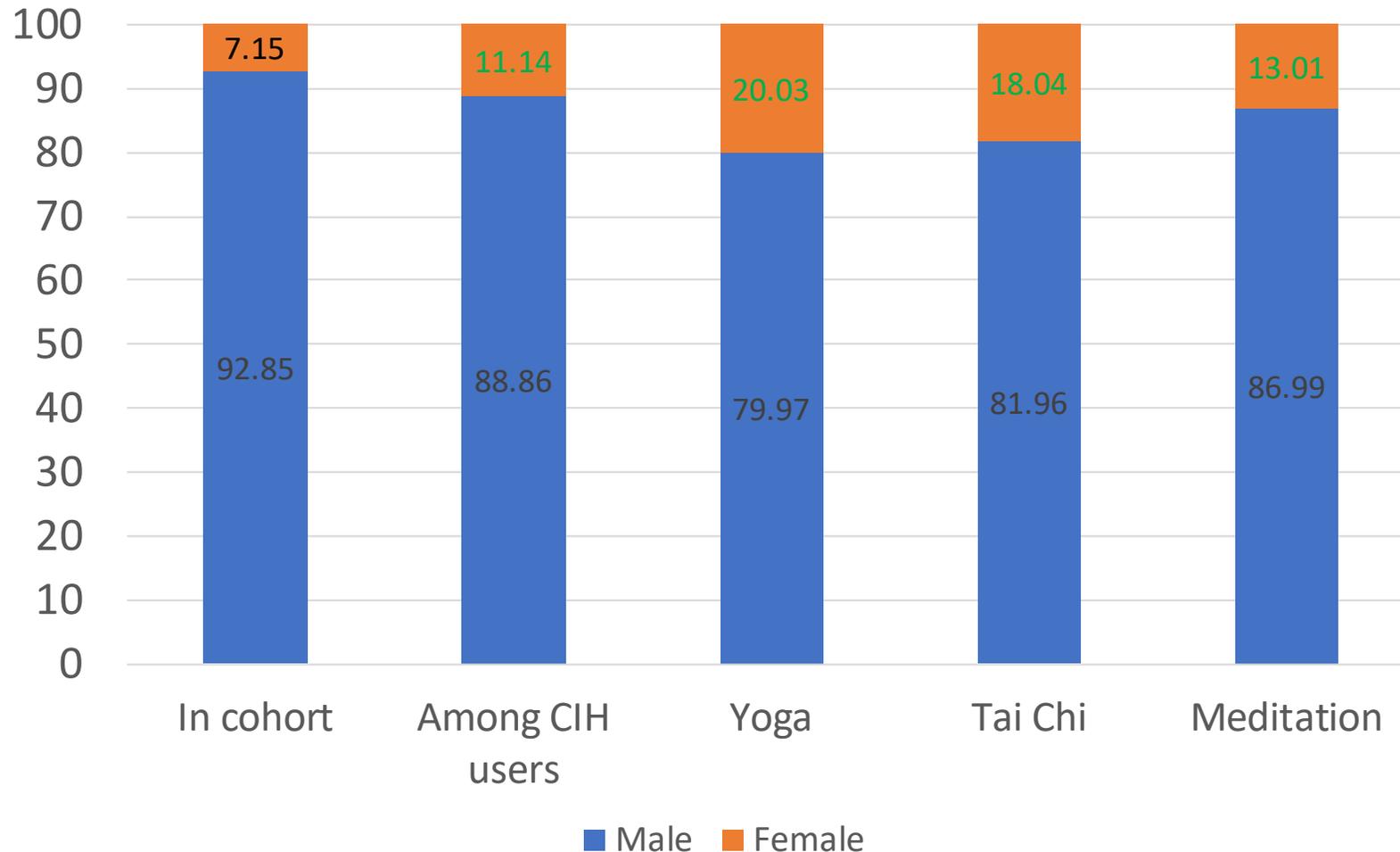
Higher baseline pain intensity

Higher baseline Mean mg MEDD

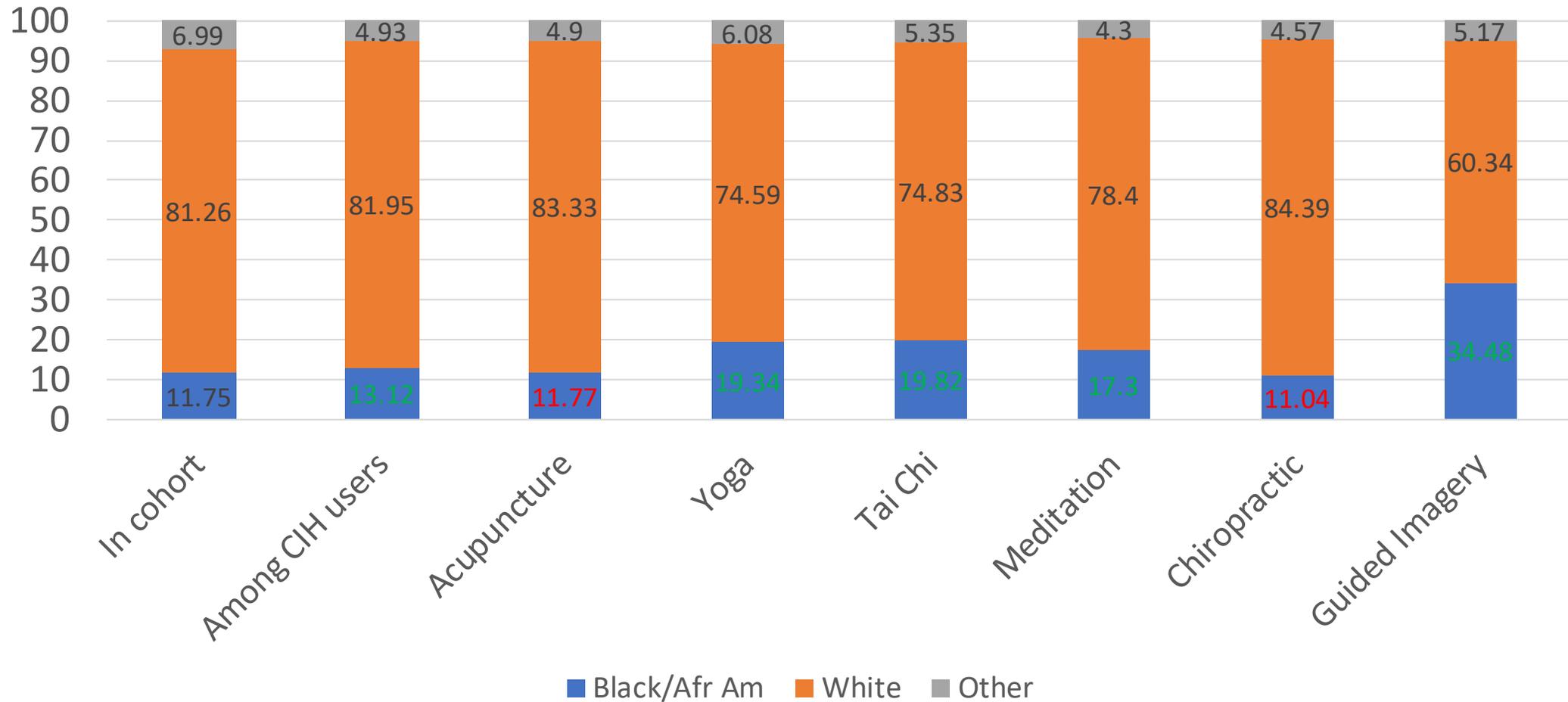
Within modalities associated with age group, older Veterans tended to underrepresented



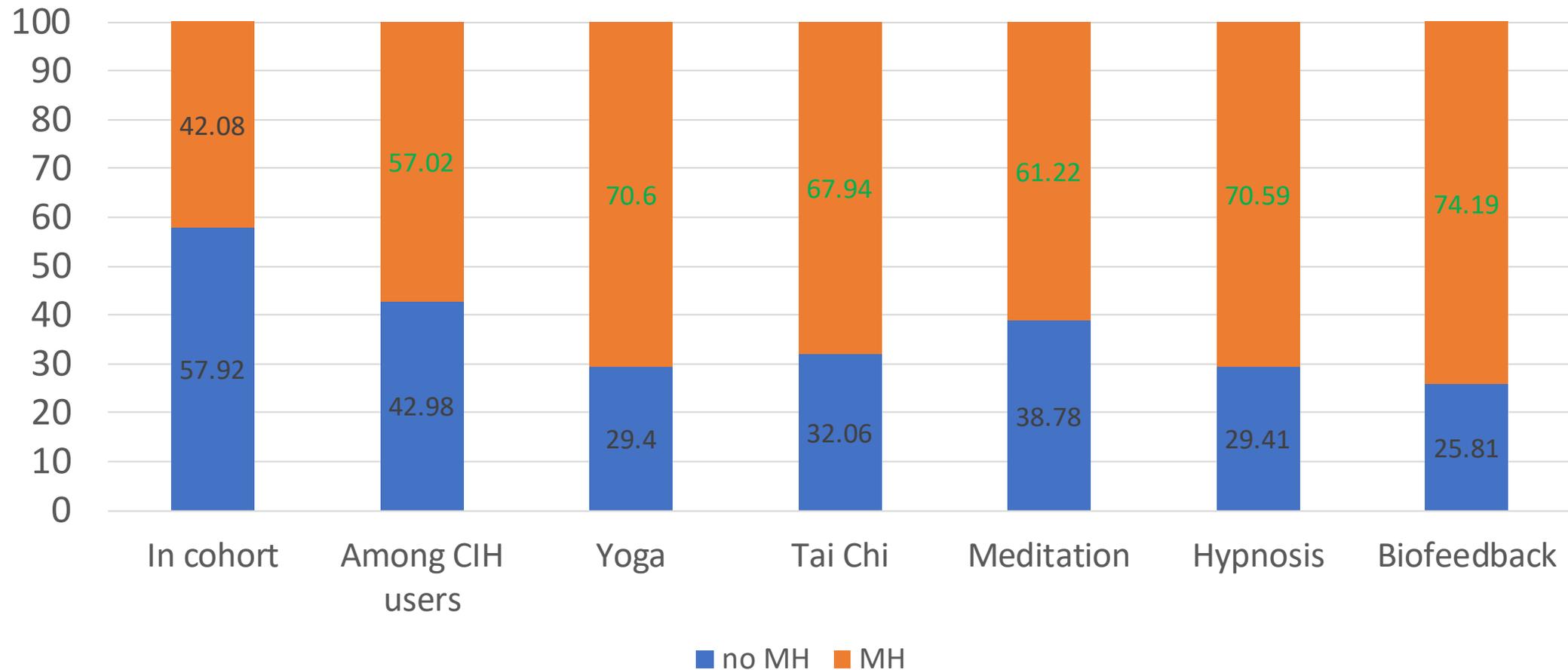
Female Veterans were overrepresented in Yoga, Tai Chi and Meditation; no differences for Chiropractic, Acupuncture, others



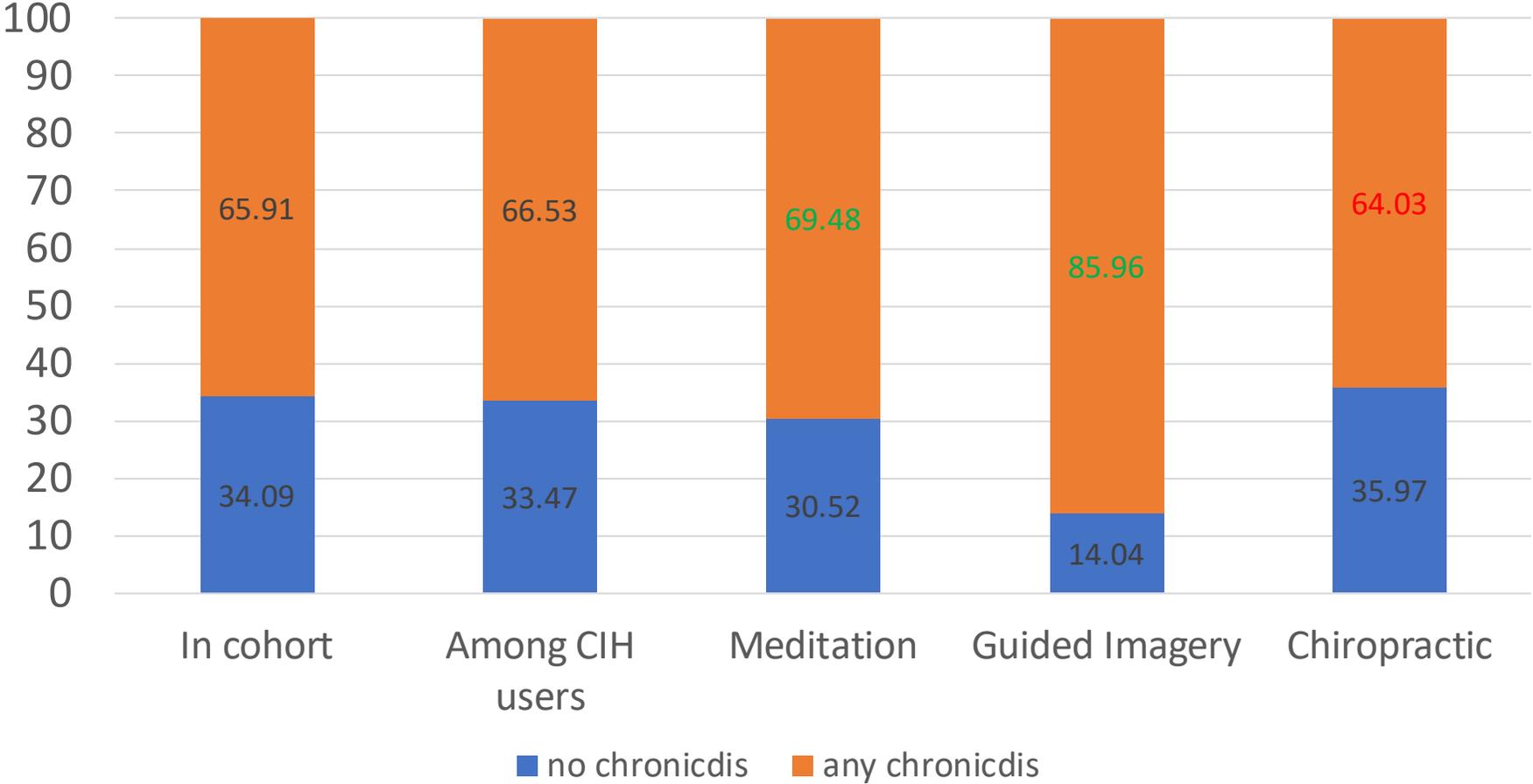
African-American Veterans were overrepresented in Yoga, Tai Chi, Meditation, and Guided Imagery; underrepresented in Chiropractic, Acupuncture



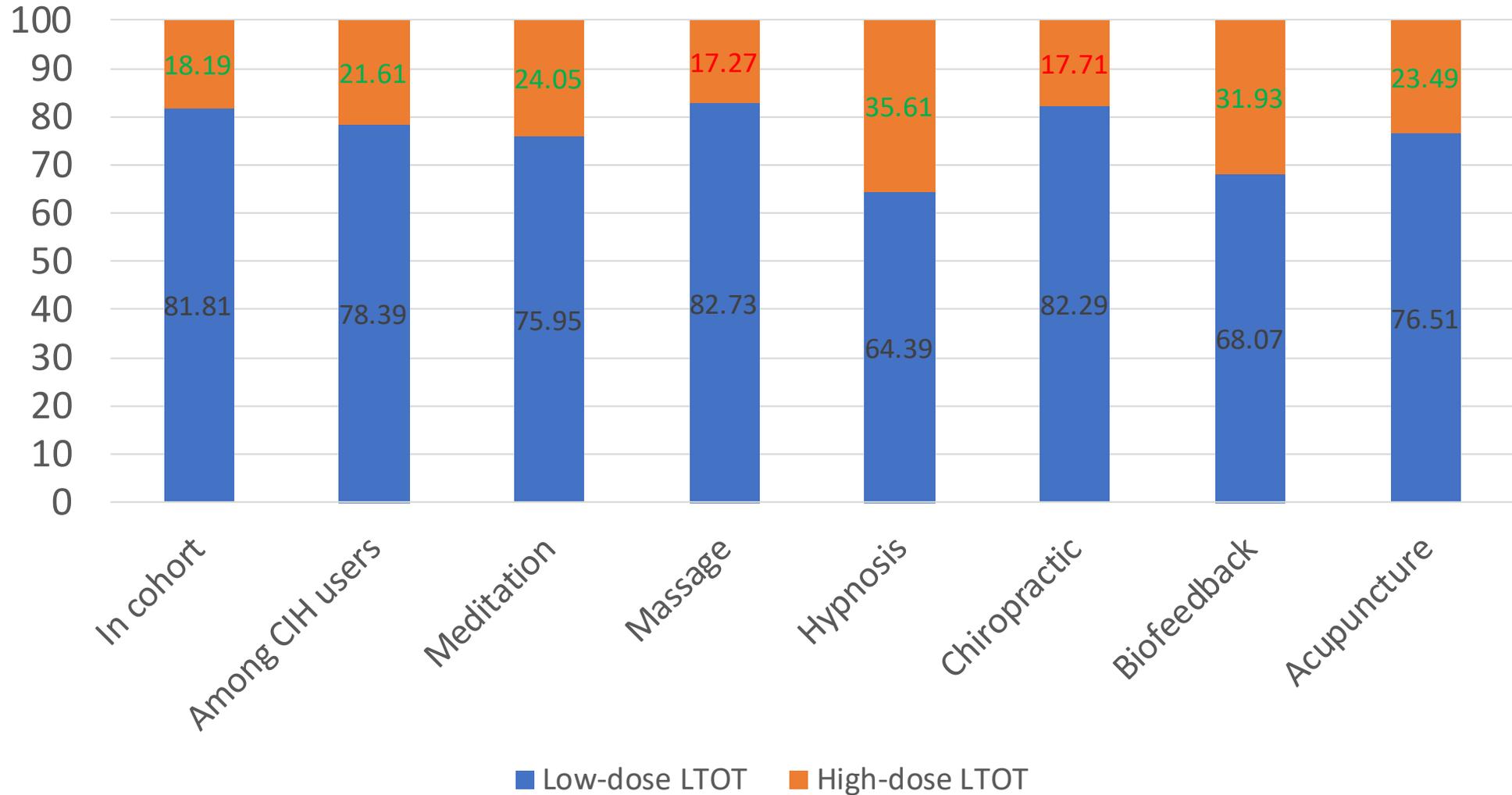
Veterans with a mental health diagnosis were overrepresented in many modalities; no differences in Chiropractic, Acupuncture



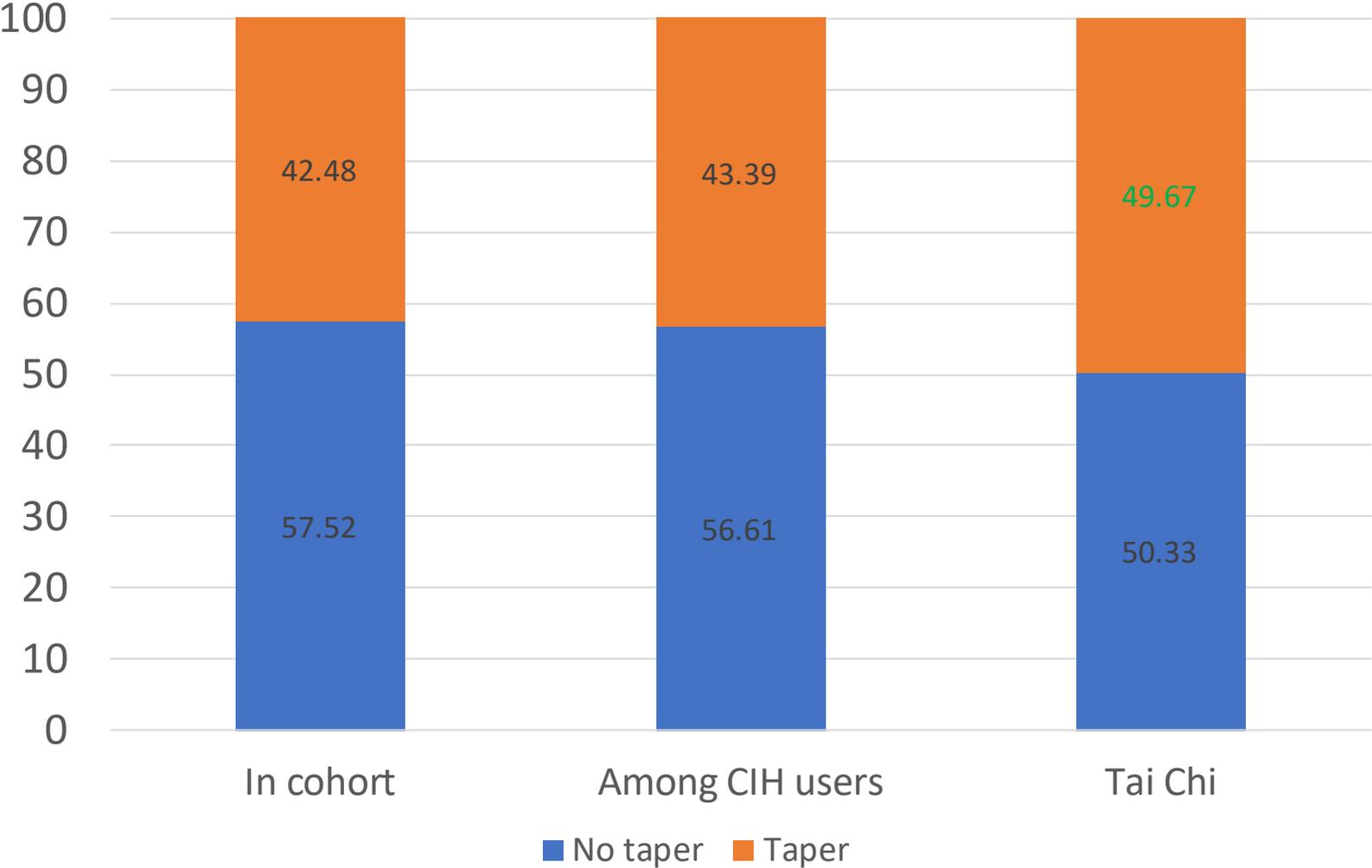
Veterans with a chronic medical disease were not more likely to use CIH;
overrepresented in Meditation, Guided Imagery;
underrepresented in Chiropractic care



Veterans on high-dose LTOT were more likely to use CIH;
Were overrepresented across many modalities;
underrepresented in Massage and Chiropractic care



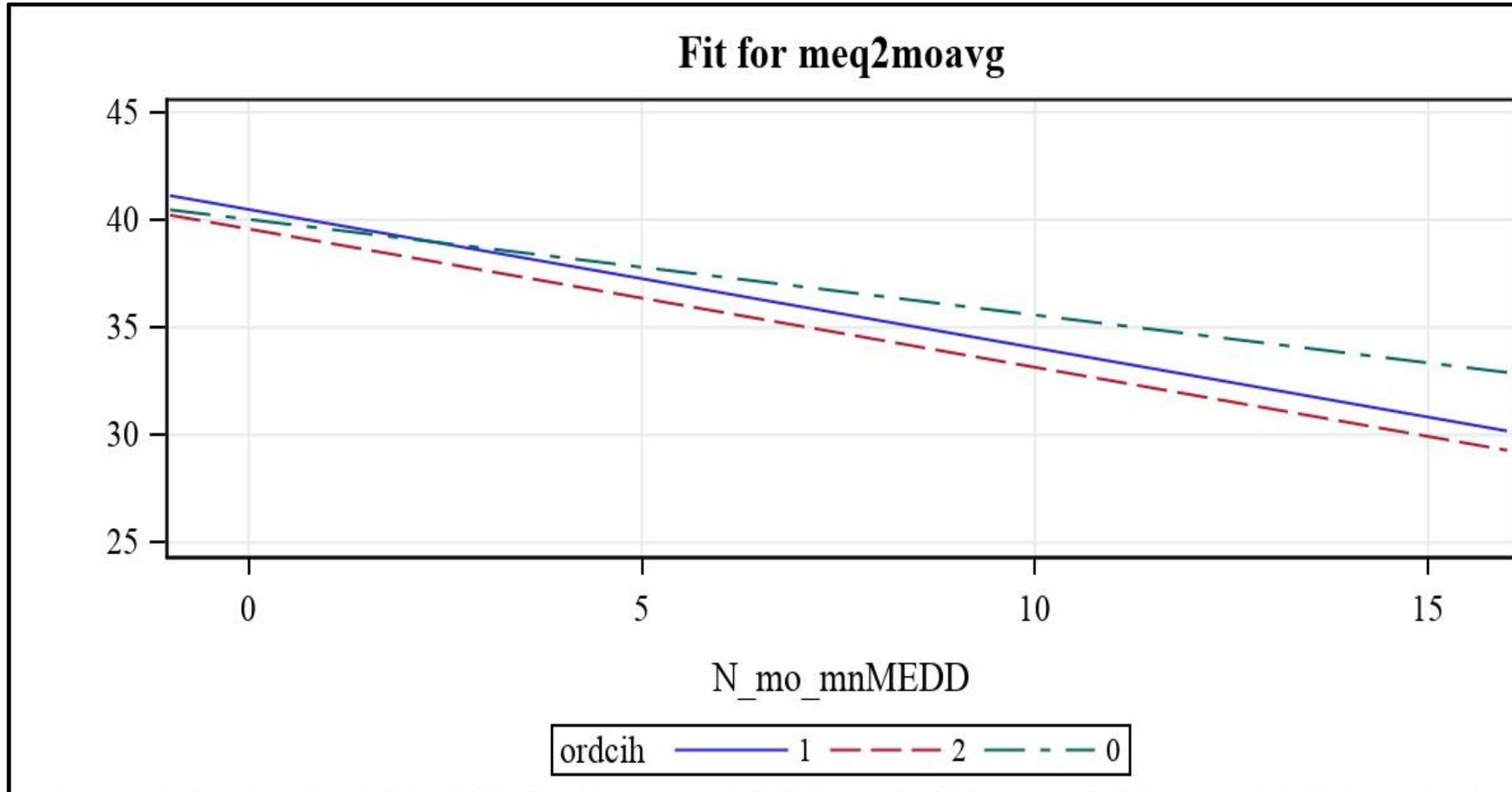
There was no difference in any CIH use by 15% LTOT taper achieved.
Those who achieved taper were overrepresented in Tai Chi



LINEAR MIXED EFFECTS MODEL

Outcome	Mean mg MEDD overlapping 60-day intervals
Time	Months
Baseline status	Baseline mean MEDD
Demographic covariates	Age
	African American
	Hispanic
	Married
Co-occurring disorders	Baseline pain
	Mental health diagnosis
	Obesity
	Diabetes
	COPD
	Cardiovascular disease
CIH utilization	1-3 CIH visits (vs. 0)
	4+ CIH visits (vs. 0)
Time X CIH utilization	Months X 1-3 CIH visits
	Months X 4+ CIH visits

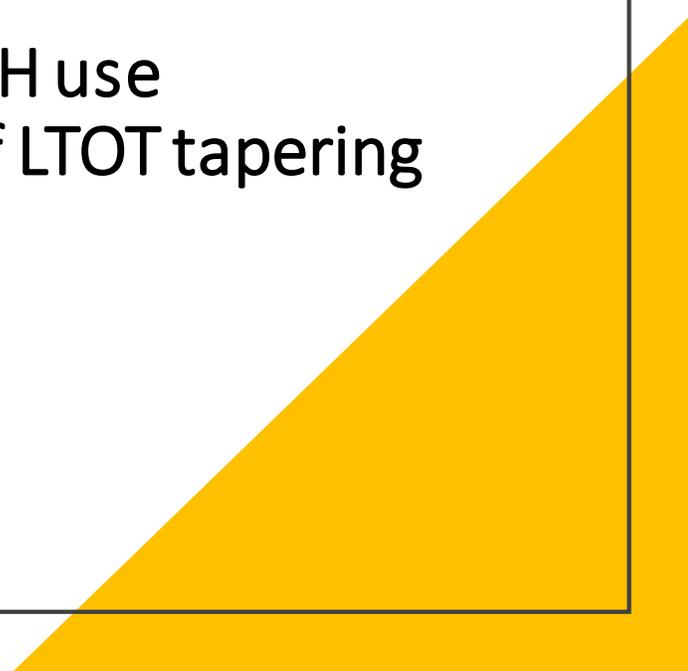
Veterans who used CIH, higher-frequency CIH, experienced faster rates of LTOT dose reduction



Limitations

- No ability to assess cause or directionality
 - No details about LTOT history; dose trend pre-cohort entry
 - No detail about CIH timing relative to tapering onset
 - Potential omitted variable accounting for association between tapering and CIH use (e.g., motivation)
 - No information about CIH referral, uptake
 - Assumptions about 0 mg dose
- 
- A large yellow triangle is positioned in the bottom right corner of the slide, pointing towards the top right.

Conclusion

- A minority of Veterans prescribed LTOT used CIH
 - CIH use was associated with presence of comorbidities, greater baseline pain and higher baseline LTOT dose
 - Differences in modality use were associated with Veteran characteristics, comorbidities, and LTOT dose
 - Achieving 15% tapering was not associated with CIH use
 - CIH was associated with significantly faster rates of LTOT tapering
- 
- A yellow triangular graphic is located in the bottom right corner of the slide, pointing towards the top right.

Poll slide #2

Having seen the data in this presentation, how likely are you to increase the frequency with which you refer patients on long-term opioid therapy to Complementary and Integrative Health services?

- A. Very likely
- B. Somewhat likely
- C. No change
- D. Somewhat unlikely
- E. Very unlikely
- F. I do not work with patients on long-term opioid therapy