

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

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Executive Summary

As a part of Veteran Health Administration's (VA's) Whole Health System transformation, there has been a large-scale expansion of complementary and integrative health (CIH) therapies as part of standard medical care. This expansion is being driven by several factors, including: mounting evidence of the effectiveness of these therapies for many conditions¹⁻¹¹ that, in turn has led to their inclusion in national pain management guidelines and strategies,¹²⁻¹³ increasing demand from Veterans,¹⁴ increasing need to offer non-pharmacologic pain management strategies to counter the opioid epidemic, and significant support from Congress¹⁵ and VA leadership.¹⁶

The Data Nexus project of the VA Complementary and Integrative Health Evaluation Center (CIHEC) QUERI Partnered Evaluation Center was funded to conduct an analysis in partnership with the VA Office of Patient Centered Care & Cultural Transformation (OPCC&CT) in 2020 of data from VA electronic medical records and from community-based claims to examine Veterans' use of nine CIH therapies and chiropractic care from fiscal years (FY) 2017 to 2019. This *Compendium on Use of Complementary and Integrative Health Therapies and Chiropractic Care at the VA: Part I* reports on the results of those analyses, showing Veterans' use of these therapies over the past three years and the demographic and health characteristics of those Veterans.

Our analyses of Veterans' use of nine CIH therapies and chiropractic care showed:

- From FY17 to FY19, Veterans appeared to use traditional acupuncture and chiropractic care more than the other therapies we examined.
- Veterans' use of each of the therapies increased substantively from FY17 to FY19. Also, both the number of Veteran using these therapies and the number of visits they made more than doubled over the three years for guided imagery, Battlefield Acupuncture, Tai Chi/Qigong, meditation, and yoga.
- When we examined Veterans' use of CIH therapies and chiropractic care at the level of VA's healthcare networks, the Veteran Integrated Service Networks (VISNs), we found that traditional acupuncture and chiropractic care were the two most widely used therapies across all VISNs. Alternatively, biofeedback, guided imagery and clinical hypnosis were the least used therapies across all VISNs.
- Veterans receiving care in VISNs 9, 20, and 21 appeared more likely than Veterans receiving care in other VISNs to use a CIH therapy or chiropractic care in FY19, with 7.1%, 8.3% and 8.8% of their respective patients using any therapy.
- Visual maps showed that Veterans' use of traditional acupuncture appeared to have been more concentrated in the West Coast region of the U.S. in FY19, with the Texas region (VISN 17) reporting the least usage of traditional acupuncture. Alternatively, chiropractic care was most likely to be utilized by Veterans in the Northwest U.S. and least likely to be utilized in the Eastern U.S.

When we examined the demographic characteristics of Veterans using the nine CIH therapies and chiropractic care in FY19, we found:

- **Men:** Among VA healthcare users, men appeared less likely to use these therapies than women. They accounted for 91.0% of VA healthcare users but made up 82.7% of Veterans using any of these therapies. At the high end, men accounted for 83.2% of chiropractic care users and, at the low end, accounted for 73.5% of the yoga users.
- **Women:** Conversely, women appeared more likely to use these therapies than men. They accounted for 9.0% of VA healthcare users but made up 17.3% of therapy users. Also, at the high end, women accounted for 26.5% of yoga users and, at the low end, 16.8% of chiropractic care users.
- **Younger Veterans:** In general, younger Veterans were more likely to use these therapies than older Veterans. For example, Veterans age 39 years and younger represented 13.2% of VA healthcare users, but 20.8% of therapy users overall and 26.1% (the highest proportion of any group) of chiropractic care users. Similarly, Veterans aged 40-49 represented 9.5% of VA healthcare users, but 16.4% of therapy users overall.
- **Older Veterans:** Conversely, older Veterans were less likely to use these therapies than younger Veterans. Veterans age 70+ accounted for 40.3% of VA healthcare users but only 21.0% of therapy users. These Veterans were least likely to use biofeedback, accounting for only 14.1% of therapy users and mostly likely to use Tai Chi/Qigong, accounting for 27.2% of users.
- **Geographic residence:** We did not observe large differences between Veterans living in urban and rural areas in terms of their use of CIH therapies and chiropractic care. Within each therapy, urban dwellers made up the majority of users. The therapies with the highest percentage of urban dwellers using them were meditation, yoga, Tai Chi/Qigong, and biofeedback, while the therapies with the lowest proportion of urban dwellers using them were Battlefield Acupuncture and therapeutic massage. A similar, but reverse, pattern was seen among rural Veterans.
- **Race/ethnicity:** Although African Americans accounted for 17.5% of the VA healthcare users, they made up a higher percentage of Veterans using meditation, yoga, Tai Chi/Qigong, biofeedback, guided imagery, and clinical hypnosis.

When we examined the health characteristics of Veterans using the nine CIH therapies and chiropractic care in FY19, we found:

- **Chronic musculoskeletal pain:** This type of pain was common among CIH therapy and chiropractic care users. Compared to the overall VA healthcare user population, Veterans using CIH therapies or chiropractic care were more than twice as likely to have chronic musculoskeletal pain (22.7% vs. 55.1%, respectively). Also, for Veterans using each of the therapies examined, at least half had chronic musculoskeletal pain, with it being most prevalent among users of traditional (64.0%) and Battlefield (67.4%) acupuncture.
- **Mental health:** Veterans using these therapies were more likely to have depression, anxiety or post-traumatic stress disorder (PTSD) (54.2%) compared to the overall VA healthcare user population (32.6%) in FY19. Among CIH therapy and chiropractic care users, 23.3% had an anxiety disorder, 31.0% had depression and 33.0% had PTSD. Also, over 70% of users of meditation, biofeedback, guided imagery, yoga, and clinical hypnosis had anxiety, depression or PTSD.

- Cardiovascular disease: Veterans using these therapies also had lower rates of cardiovascular disease compared to the overall VA healthcare user population (50.7% vs. 60.1%). Users of Tai Chi/Qigong and guided imagery were the most likely to have cardiovascular disease compared with users of other CIH therapies or chiropractic care.
- Diabetes: Diabetes was almost as prevalent among therapy users as it was among the overall VA healthcare user population (21.4% vs. 24.3%). Also, over a quarter of Veterans using Tai Chi/Qigong (29.2%), guided imagery (27.0%), clinical hypnosis (26.7%), meditation (25.6%), or Battlefield Acupuncture (25.9%) had diabetes.
- Obesity: Obesity was only slightly more common among users of any CIH therapy or chiropractic care compared to the overall VA healthcare user population (23.6% vs. 17.4%). Veterans using Tai Chi/Qigong (35.7%), yoga (32.1%) or guided imagery (33.4%) had the highest proportion of obesity relative to Veterans using the other therapies.

We also explored the provision of traditional acupuncture, massage therapy, and chiropractic care by VA- and community-based providers. We found:

- In FY19, 159,386 Veterans made 1,907,706 visits to community-based providers for traditional acupuncture, chiropractic care and massage therapy, which was an increase of 36.2% of users and 31.7% of visits from FY18. The largest increases were seen for massage therapy.
- More Veterans used community-based providers and made more visits to them compared to Veterans' use of VA-based providers for acupuncture, massage therapy and chiropractic care in both FY18 and FY19.
- Veterans appeared more likely to receive care from community-based providers rather than VA-based providers for these three therapies. The percentage of Veterans using these community-based therapies ranged from a high for Veterans in VISNs 9 (4.4%), 20 (6.2%) and 21 (5.4%) to a low in VISNs 5 (1.9%), 7 (1.5%) and 16 (1.8%).
- Veterans receiving care from community-based providers for these therapies appeared more likely to be female, younger or have chronic musculoskeletal pain, anxiety, depression, or PTSD compared to the overall VA healthcare user population.

In summary, these findings indicate that VA's efforts to expand CIH therapies and chiropractic care in order to offer Veterans more non-pharmacological options to manage their health and well-being have had some success. VA facilities are continuing to work towards further expanding access to these therapies. As part of the Whole Health System transformation, further efforts are necessary to not only achieve a wider implementation of these therapies, but to achieve a true cultural change in the way care is delivered throughout the VA healthcare system. As such, this *VA Compendium* will be produced annually or biannually, with both updates on CIH therapy usage and new analyses, including analyses of tele-CIH therapies and additional elements of Whole Health.

Introduction

The Veteran Health Administration (VA) is undergoing a large-scale expansion of complementary and integrative health (CIH) therapies as part of standard medical care. This expansion is part of the Whole Health System transformation and is being driven by several factors, including: mounting evidence of the effectiveness of these therapies for many conditions¹⁻¹¹ that, in turn has led to their inclusion in national pain management guidelines and strategies,¹²⁻¹³ increasing demand from Veterans,¹⁴ increasing need to offer non-pharmacologic pain management strategies to counter the opioid epidemic, and significant support from Congress¹⁵ and VA leadership.¹⁶

Consistent with its long history of innovation, this expansion is part of the massive transformation to a Whole Health System of care,¹⁷ described below. To-date, the VA has approved eight CIH therapies be offered as part of the standard VA medical benefits package—a radical step forward in providing truly integrative care, and one which no other healthcare system to-date has taken on this scale. These eight therapies are: acupuncture, biofeedback, clinical hypnosis, guided imagery, massage therapy, meditation, Tai Chi/Qigong, and yoga. Although some in the healthcare field still consider chiropractic care to be complementary, it is considered allopathic care in the VA. Every VA medical facility is now required to provide access to these therapies where appropriate for Veterans’ plan of care, either at a VA medical center, in the Veterans’ communities, or via telehealth. Because the VA is the nation’s largest integrated healthcare system, this innovation has potential for great impact for federal and state health policy related to the provision of CIH therapies within any healthcare setting.

The Data Nexus project of the VA Complementary and Integrative Health Evaluation Center (CIHEC) QUERI Partnered Evaluation Center was funded to conduct an analysis in partnership with the VA Office of Patient Centered Care & Cultural Transformation (OPCC&CT) in 2020 of data from VA electronic medical records and from community-based claims to examine Veterans’ use of nine CIH therapies and chiropractic care from fiscal years (FY) 2017 to 2019. This *Compendium on Use of Complementary and Integrative Health Therapies and Chiropractic Care at the VA: Part I* reports on the results of those analyses, showing Veterans’ use of these therapies over the past three years and the demographic and health characteristics of those Veterans. The ten therapies are the eight mentioned above plus chiropractic care and an auricular acupuncture protocol for pain, Battlefield Acupuncture (BFA), which is delivered predominantly in the VA and military settings, (with brief descriptions of each in the Methodology section). We included chiropractic care in this report because of its central role in providing nonpharmacologic approaches to pain and its close integration with many CIH programs across the VA medical system. Also, though Tai Chi and Qigong are different practices, they stem from the same roots and are based on similar concepts. As such, we combined Veterans’ use of these two CIH therapies for the purposes of this report.

This *VA Compendium* will be produced annually or biannually, with both updates on CIH therapy usage data and new analyses, including analyses of the cost to deliver the therapies, the use of the therapies for a wider range of health conditions and sociodemographic categories, and an expansion to include tele-CIH and other aspects of Whole Health besides CIH therapies, such as coaching and the Taking Charge of Your Health and Life classes.

Background on CIH Therapies in the VA. In response to increasing demand for CIH therapies from Veterans, clinicians, and Congress, the Integrative Health Coordinating Center was established within the VA OPCC&CT in 2014 to identify and remove barriers to implementing evidence-based CIH therapies across the VA, including developing national policy on the provision of CIH therapies. In 2016, the Comprehensive Addiction and Recovery Act (CARA) legislation was signed into law¹⁵ contributing significant momentum to the expansion of CIH therapies and chiropractic care in the VA. This legislation required both a comprehensive plan for how the VA would expand availability of these therapies and a 3-year pilot to expand their provision in no fewer than 15 VA medical centers. As such, the VA launched 18 “Whole Health Flagship” facilities in 2018, the first wave of facilities in the national deployment of the Whole Health System model, which includes CIH therapies. These therapies are delivered in the VA not only as an add-on or a set of new tools, but as a critical component in the context of a larger transformation to a Whole Health System model of care.¹⁷ This model shifts from focusing on episodic, disease-centered care to engaging and empowering Veterans early on and throughout their lives to take charge of their life and health. The model emphasizes self-care along with conventional care and CIH therapies such as yoga, meditation and acupuncture. (For more information on the evaluation of the Whole Health Flagship effort, please see the full report.¹⁸) In addition, the VA is currently in the process of expanding on-station chiropractic clinics, consistent with the 2018 Consolidated Appropriations Act, which requires on-station chiropractic care be provided at no fewer than 50 percent of all medical centers in each VISN by December 31, 2021.

Over the past five years, the VA has made significant progress in expanding the availability of CIH therapies and chiropractic care to Veterans, especially to address pain and mental health conditions. In 2017–2018, the Complementary and Integrative Health Evaluation Center conducted a national survey of VA medical centers and their large community-based outpatient clinics to determine not only which CIH therapies were available at the time, but also several organizational aspects of that CIH delivery, such as the type of provider delivering it.¹⁹ Although not every CIH therapy is available at every VA medical facility, all facilities currently offer some, and we are seeing rapid progress across the country in our goal to ultimately achieve comprehensive access across the healthcare system. This implementation of CIH therapies in the VA has been examined in several studies in a recently published special edition of the journal *Medical Care*²⁰⁻³⁰ (<https://journals.lww.com/lww-medicalcare/toc/2020/09001>) and in an upcoming issue of the *Journal of Alternative and Complementary Medicine* in spring 2021. To-date, Veteran response and health outcomes of this shift are extremely positive.^{14, 18}

Part A: Veterans' Use of CIH Therapies and Chiropractic Care

1. Veterans' Use of CIH Therapies and Chiropractic Care, Nationally, FY19

Table 1 shows Veterans' use of each of the nine CIH therapies along with chiropractic care examined for this report. In fiscal year 2019 (FY19, which is October 2018 to September 2019), 302,296 Veterans completed 2,792,653 CIH and chiropractic care visits. By a substantial margin, traditional acupuncture and chiropractic care were the two most widely used therapies.

Table 1. Veterans' Use of CIH Therapies and Chiropractic Care, FY19

CIH Therapy	Number of Users	Number 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

2. Trends in Veterans’ Use of CIH Therapies and Chiropractic Care, Nationally, FY17–FY19

Table 2 shows that Veterans’ use of CIH therapies and chiropractic care increased considerably from FY17 to FY19. In FY19, 302,296 Veterans used a CIH therapy or chiropractic care compared to 177,253 in FY17, an increase of 70.5%. Accordingly, the number of visits increased from 1,567,387 in FY17 to 2,792,653 in FY19, representing an increase of 78.2% visits. This increase might be due in part to programmatic and policy changes that increased access and utilization, as well as changes in coding practices that resulted in a more complete capture of utilization.¹⁸ Also, the documentation of community-based care provided in FY17 is incomplete due to changes in the VA’s accounting systems.

Table 2. Veterans’ Use of CIH Therapies and Chiropractic Care, FY17–FY19

	FY17	FY18	FY19	% Change FY17 to FY19
Number of Users	177,253	226,539	302,296	70.5%
Number of Visits	1,567,387	2,072,023	2,792,653	78.2%

Figures 1 and 2 visually depict the increase in Veterans’ use of CIH therapies and chiropractic care over time. Figure 1 shows the increase in number of Veterans using any CIH therapy and Figure 2 shows the increase in number of visits.

Figures 1 & 2. Number of CIH therapy and Chiropractic Care Users and Visits, FY17–FY19

Figure 1. Number of Users

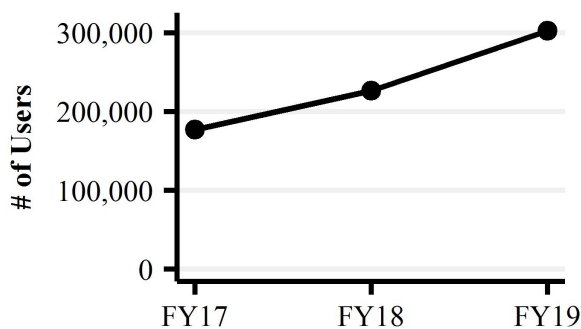
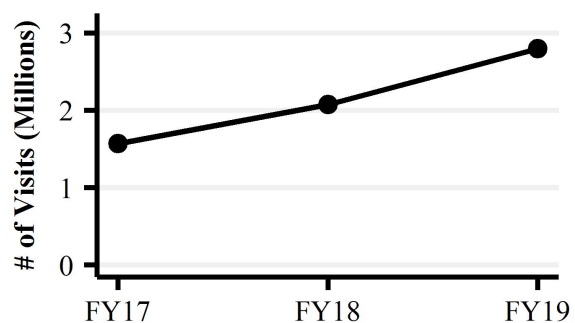


Figure 2. Number of Visits



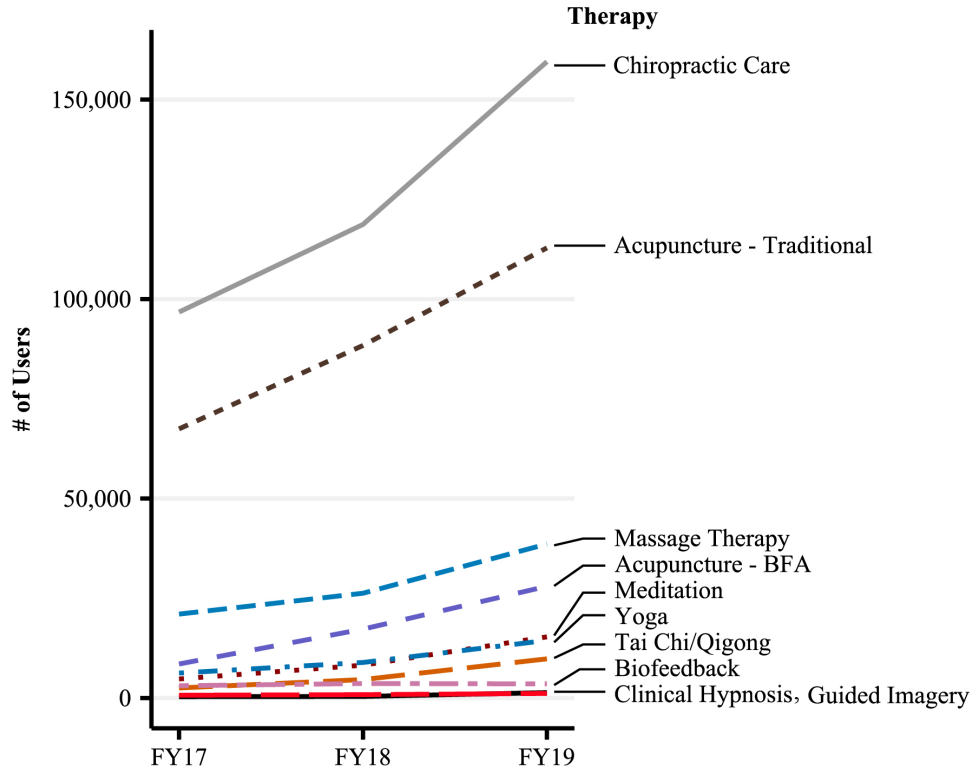
Next, we examined trends in Veterans' use of each of the nine therapies plus chiropractic care from FY17 to FY19. As shown in Table 3, use of each increased substantively from FY17 to FY19. Both the number of Veteran users and the visits they made more than doubled over these three years for guided imagery, Battlefield Acupuncture, Tai Chi/Qigong, meditation, and yoga. However, the number of Veterans using the two most popular therapies, traditional acupuncture and chiropractic care, did not increase as quickly. This could be due to the fact that Veterans were already using these therapies at a relatively high rate in FY17 and the programmatic, policy and coding practice changes noted above.

Table 3. 3-Year Trends in Veterans' Use of CIH Therapies and Chiropractic Care, FY17–FY19

CIH Therapy	FY17		FY18		FY19		% Change Number of Users FY17 to FY19	% Change Number of Visits FY17 to FY19
	Number of Users	Number of Visits	Number of Users	Number of Visits	Number of Users	Number of Visits		
Any Therapy	177,253	1,567,387	226,539	2,072,023	302,296	2,792,653	70.5%	78.2%
Chiropractic	96,752	805,301	118,704	952,960	159,506	1,224,324	64.9%	52.0%
Acupuncture Traditional	67,461	516,857	88,367	689,313	112,826	868,728	67.2%	68.1%
Acupuncture BFA	8,520	20,474	17,255	43,796	27,990	79,911	228.5%	290.3%
Massage Therapy	21,031	134,908	26,254	248,948	38,582	386,828	83.5%	186.7%
Meditation	4,762	18,839	8,218	34,079	15,317	60,866	221.7%	223.1%
Yoga	6,242	40,659	8,899	57,847	14,424	92,163	131.1%	126.7%
Tai Chi/Qigong	2,510	17,953	4,614	30,024	9,806	62,038	290.7%	245.6%
Biofeed-back	3,065	9,778	3,619	12,176	3,534	12,051	15.3%	23.2%
Guided Imagery	335	788	387	994	1,340	3,209	300.0%	307.2%
Clinical Hypnosis	686	1,830	828	1,886	1,138	2,535	65.9%	38.5%

Figure 3 provides a visual graphic of the numbers shown in Table 3, to reflect the absolute change in the number of Veterans using each individual CIH therapy or chiropractic care from FY17 to FY19.

Figure 3. Trends in the Number of Veterans Using Each CIH Therapy and Chiropractic Care, FY17–FY19



Part B. Utilization of CIH Therapies and Chiropractic Care by Geography

3. Veterans' Use of CIH Therapies and Chiropractic Care by Veterans Integrated Service Networks (VISNs), FY19

We also examined how Veterans' use of CIH therapies and chiropractic care varied by the VISN where they received their healthcare. The first row of Table 4 shows, for example, that 210,415 Veterans received qualifying care in VISN 1 in FY19. Among these Veterans, 6.2% used any CIH therapy or chiropractic care and 3.0% used chiropractic care. VISNs 9, 20, and 21 all reported the highest percentage of Veterans using any of these therapies. Traditional acupuncture and chiropractic care were the two most widely used therapies across all VISNs, while biofeedback, guided imagery and clinical hypnosis were the least commonly used.

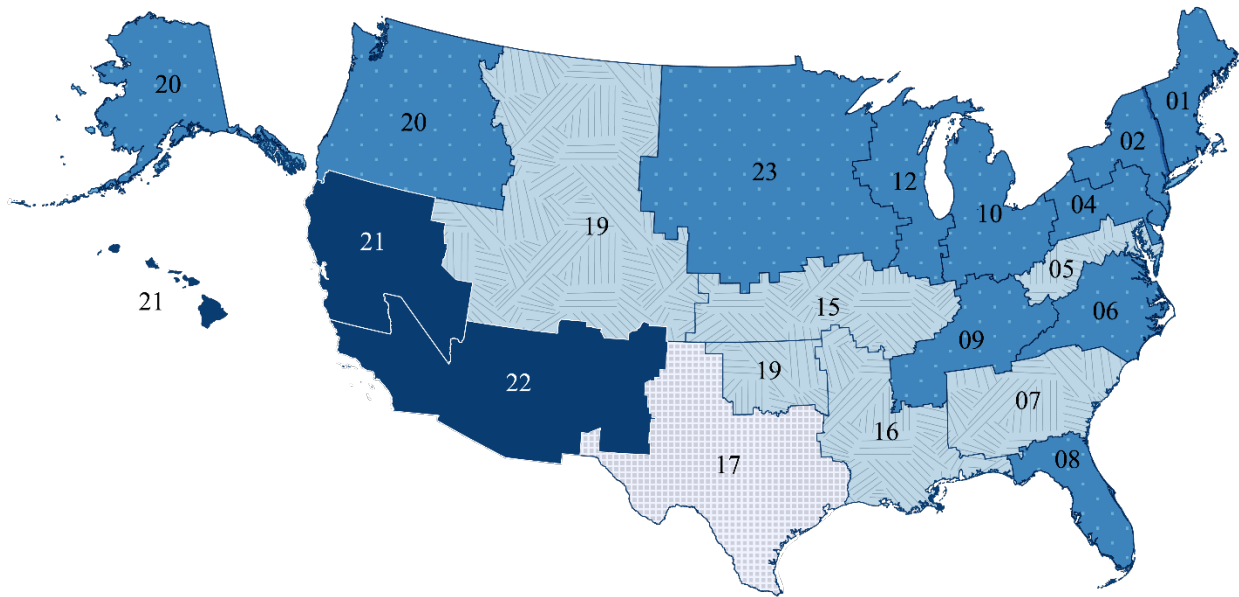
Table 4. Veterans' Use of CIH Therapies and Chiropractic Care By VISN, FY19 (% of All VA Users in the VISN)

VISN	Number of VHA Patients in VISN	Any Therapy	Chiropractic	Acupuncture Traditional	Acupuncture BFA	Massage Therapy	Meditation	Yoga	Tai Chi/Qigong	Biofeedback	Guided Imagery	Clinical Hypnosis
1	210,415	13,006 (6.2%)	6,353 (3.0%)	6,134 (2.9%)	629 (0.3%)	1,533 (0.7%)	687 (0.3%)	885 (0.4%)	497 (0.2%)	22 (0.0%)	157 (0.1%)	35 (0.0%)
2	232,383	14,966 (6.4%)	5,752 (2.5%)	6,533 (2.8%)	638 (0.3%)	4,182 (1.8%)	1,081 (0.5%)	942 (0.4%)	548 (0.2%)	63 (0.0%)	0 (0.0%)	76 (0.0%)
4	245,460	12,162 (5.0%)	5,753 (2.3%)	5,400 (2.2%)	1,307 (0.5%)	705 (0.3%)	515 (0.2%)	484 (0.2%)	338 (0.1%)	506 (0.2%)	37 (0.0%)	0 (0.0%)
5	162,458	8,518 (5.2%)	4,167 (2.6%)	2,904 (1.8%)	1,524 (0.9%)	956 (0.6%)	392 (0.2%)	627 (0.4%)	324 (0.2%)	127 (0.1%)	0 (0.0%)	0 (0.0%)
6	336,493	16,770 (5.0%)	7,080 (2.1%)	7,523 (2.2%)	1,811 (0.5%)	1,191 (0.4%)	537 (0.2%)	1,176 (0.3%)	879 (0.3%)	270 (0.1%)	61 (0.0%)	303 (0.1%)
7	387,891	12,094 (3.1%)	4,512 (1.2%)	5,189 (1.3%)	1,131 (0.3%)	987 (0.3%)	707 (0.2%)	709 (0.2%)	573 (0.1%)	241 (0.1%)	111 (0.0%)	28 (0.0%)
8	508,439	28,899 (5.7%)	12,507 (2.5%)	10,254 (2.0%)	3,443 (0.7%)	5,466 (1.1%)	1,230 (0.2%)	788 (0.2%)	888 (0.2%)	296 (0.1%)	154 (0.0%)	0 (0.0%)
9	235,622	16,720 (7.1%)	10,938 (4.6%)	5,481 (2.3%)	76 (0.0%)	2,840 (1.2%)	1,407 (0.6%)	1,160 (0.5%)	634 (0.3%)	0 (0.0%)	190 (0.1%)	91 (0.0%)

VISN	Number of VHA Patients in VISN	Any Therapy	Chiro-practic	Acupuncture Traditional	Acupuncture BFA	Massage Therapy	Meditation	Yoga	Tai Chi/Qigong	Biofeed-back	Guided Imagery	Clinical Hypnosis
10	397,006	21,861 (5.5%)	12,255 (3.1%)	7,948 (2.0%)	3,791 (1.0%)	1,365 (0.3%)	701 (0.2%)	1,115 (0.3%)	550 (0.1%)	73 (0.0%)	0 (0.0%)	86 (0.0%)
12	234,385	13,862 (5.9%)	6,647 (2.8%)	5,642 (2.4%)	1,681 (0.7%)	872 (0.4%)	574 (0.2%)	493 (0.2%)	621 (0.3%)	595 (0.3%)	70 (0.0%)	42 (0.0%)
15	211,765	12,598 (5.9%)	8,465 (4.0%)	3,096 (1.5%)	2,039 (1.0%)	1,020 (0.5%)	497 (0.2%)	592 (0.3%)	440 (0.2%)	243 (0.1%)	40 (0.0%)	41 (0.0%)
16	356,645	13,379 (3.8%)	7,482 (2.1%)	3,733 (1.0%)	557 (0.2%)	1,613 (0.5%)	1,430 (0.4%)	791 (0.2%)	767 (0.2%)	46 (0.0%)	249 (0.1%)	68 (0.0%)
17	296,514	14,095 (4.8%)	9,098 (3.1%)	2,937 (1.0%)	1,921 (0.6%)	1,184 (0.4%)	643 (0.2%)	294 (0.1%)	159 (0.1%)	32 (0.0%)	63 (0.0%)	0 (0.0%)
19	259,185	15,140 (5.8%)	8,980 (3.5%)	5,085 (2.0%)	912 (0.4%)	2,143 (0.8%)	1,542 (0.6%)	562 (0.2%)	259 (0.1%)	222 (0.1%)	39 (0.0%)	204 (0.1%)
20	240,812	20,045 (8.3%)	12,269 (5.1%)	6,736 (2.8%)	1,812 (0.8%)	2,671 (1.1%)	744 (0.3%)	719 (0.3%)	398 (0.2%)	33 (0.0%)	0 (0.0%)	86 (0.0%)
21	265,114	23,323 (8.8%)	14,376 (5.4%)	9,733 (3.7%)	531 (0.2%)	4,141 (1.6%)	297 (0.1%)	759 (0.3%)	94 (0.0%)	45 (0.0%)	0 (0.0%)	30 (0.0%)
22	403,748	26,958 (6.7%)	13,080 (3.2%)	12,516 (3.1%)	950 (0.2%)	3,562 (0.9%)	1,627 (0.4%)	1,176 (0.3%)	912 (0.2%)	275 (0.1%)	132 (0.0%)	0 (0.0%)
23	276,578	17,900 (6.5%)	9,792 (3.5%)	5,982 (2.2%)	3,237 (1.2%)	2,151 (0.8%)	706 (0.3%)	1,152 (0.4%)	925 (0.3%)	435 (0.2%)	0 (0.0%)	0 (0.0%)

We also visually examined the geographic variation of the two most commonly used therapies, acupuncture and chiropractic care, in Figures 4 and 5, respectively. As shown in Figure 4, the percentage of Veterans in the VA healthcare system who used acupuncture in FY19 appears to be more concentrated in the Western United States.

Figure 4. Map of % of Veterans in the VA Who Used Traditional Acupuncture by VISN, FY19







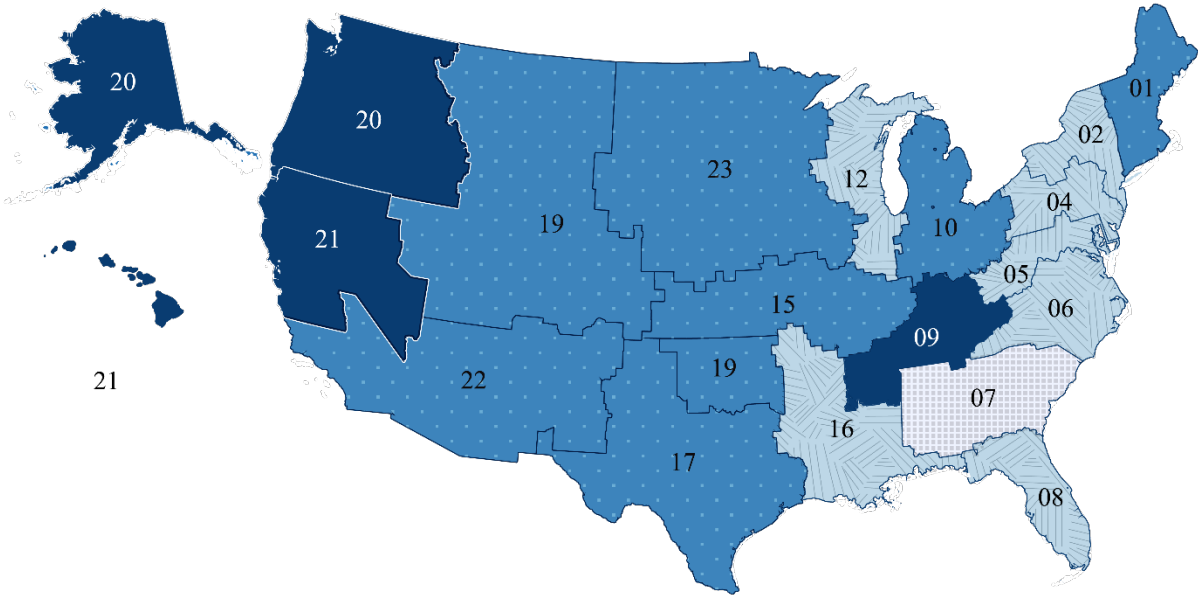
	Percent	Chiropractic Care by VISN
	0% – 0.99%	VISN 17
	1% – 1.99%	VISNs 05, 07, 15, 16, 19
	2% – 2.99%	VISNs 01, 02, 04, 06, 08, 09, 10, 12, 20, 23
	3%+	VISNs 21, 22

Figure 5 shows that the percentage of Veterans in the VA healthcare system who used chiropractic care appears higher in the Northwest U.S. and lowest in most of the Eastern U.S.

Figure 5. Map of % of Veterans in the VA Who Used Chiropractic Care by VISN, FY19



Percent	Chiropractic Care by VISN
1% – 1.99%	VISN 07
2% – 2.99%	VISNs 02, 04, 05, 06, 08, 12, 16
3% – 3.99%	VISNs 01, 10, 15, 17, 19, 22, 23
4%+	VISNs 09, 20, 21

Part C: Sociodemographic and Health Characteristics of Users of CIH Therapies and Chiropractic Care

4. Demographic Characteristics of Veterans Using CIH Therapies and Chiropractic Care, FY19

Table 5 below provides information about the demographic characteristics of Veterans using CIH therapies and chiropractic care in FY19. A few noteworthy patterns emerged. Due to the large sample sizes, tests of statistical significance are unlikely to provide meaningful insight. Here, we instead highlight differences that are practically meaningful and may be actionable. As such, we present patterns that appear qualitatively noteworthy:

- **Men:** Among VA healthcare users, men appeared less likely to use these therapies than women. They accounted for 91.0% of VA healthcare users but made up 82.7% of Veterans using any of these therapies. At the high end, men accounted for 83.2% of chiropractic care users and, at the low end, accounted for 73.5% of the yoga users.
- **Women:** Conversely, women appeared more likely to use these therapies than men. They accounted for 9.0% of VA healthcare users but made up 17.3% of therapy users. Also, at the high end, women accounted for 26.5% of yoga users and, at the low end, 16.8% of chiropractic care users.
- **Younger Veterans:** In general, younger Veterans were more likely to use these therapies than older Veterans. For example, Veterans age 39 years and younger represented 13.2% of VA healthcare users, but 20.8% of therapy users overall and 26.1% (the highest proportion of any group) of chiropractic care users. Similarly, Veterans aged 40-49 represented 9.5% of VA healthcare users, but 16.4% of therapy users overall.
- **Older Veterans:** Conversely, older Veterans were less likely to use these therapies than younger Veterans. Veterans age 70+ accounted for 40.3% of VA healthcare users but only 21.0% of therapy users. These Veterans were least likely to use biofeedback, accounting for only 14.1% of therapy users and mostly likely to use Tai Chi/Qigong, accounting for 27.2% of users.
- **Geographic residence:** We do not observe large differences between Veterans living in urban and rural areas in terms of their use of CIH therapies and chiropractic care. Within each therapy, urban dwellers made up the majority of users. The therapies with the highest percentage of urban dwellers using them were meditation, yoga, Tai Chi/Qigong, and biofeedback, while the therapies with the lowest proportion of urban dwellers using them were Battlefield Acupuncture and therapeutic massage. A similar, but reverse, pattern was seen among rural Veterans.
- **Race/ethnicity:** Although African American Veterans accounted for 17.5% of the VA healthcare users, they made up a higher percentage of Veterans using meditation, yoga, Tai Chi/Qigong, biofeedback, guided imagery, and clinical hypnosis.

Table 5. Demographic Characteristics of Veterans Using CIH Therapies and Chiropractic Care, FY19

		All VHA Patients	Any Therapy	Chiro-practic	Acup.- Trad.	Acup.- BFA	Massage Therapy	Medi-tation	Yoga	Tai Chi/ Qigong	Biofeed-back	Guided Imagery	Clinical Hypnosis
Overall		5,260,921	302,298	159,507	112,826	27,991	38,582	15,317	14,424	9,806	3,534	1,340	1,138
Gender	Male	91.0%	82.7%	83.2%	81.5%	80.7%	82.6%	79.5%	73.5%	79.2%	77.4%	77.5%	79.3%
	Female	9.0%	17.3%	16.8%	18.5%	19.3%	17.4%	20.5%	26.5%	20.8%	22.6%	22.5%	20.7%
Age	18 – 39	13.2%	20.8%	26.1%	16.4%	14.6%	20.0%	16.3%	16.8%	10.0%	24.1%	13.6%	13.4%
	40 – 49	9.5%	16.4%	18.3%	15.7%	14.9%	16.6%	14.3%	15.2%	11.8%	17.9%	13.7%	13.8%
	50 – 59	14.4%	20.3%	19.8%	21.2%	22.4%	20.4%	23.1%	22.8%	21.2%	23.2%	21.8%	24.1%
	60 – 69	22.6%	21.5%	18.9%	22.9%	24.4%	21.0%	25.7%	24.9%	29.8%	20.8%	27.2%	28.3%
	70 +	40.3%	21.0%	16.9%	23.7%	23.7%	22.0%	20.6%	20.3%	27.2%	14.1%	23.7%	20.4%
Race*	White	71.9%	70.4%	73.0%	68.7%	71.6%	71.3%	65.2%	62.8%	62.6%	64.3%	63.0%	67.4%
	AA	17.5%	18.1%	14.9%	19.1%	19.8%	15.5%	26.0%	27.9%	28.6%	27.2%	28.4%	26.0%
	Asian	1.1%	2.0%	2.1%	2.4%	0.7%	2.4%	0.9%	1.3%	1.1%	1.1%	0.7%	0.2%
	NHOPI	0.8%	1.3%	1.5%	1.3%	0.8%	2.0%	0.8%	0.8%	0.8%	0.8%	0.7%	0.8%
	AIAN	0.8%	0.9%	1.0%	0.9%	1.0%	0.9%	0.9%	0.9%	0.8%	0.6%	0.9%	1.1%
	Unknown	8.0%	7.3%	7.5%	7.5%	6.2%	8.0%	6.3%	6.2%	6.0%	5.9%	6.2%	4.6%
Ethnicity**	Not HL	90.7%	89.5%	90.0%	89.7%	92.6%	83.8%	90.6%	91.0%	92.2%	90.7%	92.1%	93.6%
	HL	6.2%	8.3%	7.7%	8.1%	5.5%	13.8%	7.7%	7.2%	6.2%	7.7%	6.3%	5.3%
	Unknown	3.1%	2.2%	2.3%	2.2%	1.9%	2.4%	1.7%	1.8%	1.6%	1.6%	1.6%	1.1%
Urban	Yes	76.7%	78.3%	76.0%	81.6%	75.4%	74.4%	85.1%	87.9%	84.7%	88.7%	80.6%	81.8%
	No	22.1%	20.2%	23.2%	17.8%	24.0%	18.0%	14.6%	11.5%	15.2%	11.0%	18.4%	17.6%
	Unknown	1.3%	1.5%	0.8%	0.5%	0.5%	7.6%	0.3%	0.7%	0.1%	0.3%	1.0%	0.6%

*AA = Black or African American, NHOPI = Native Hawaiian or Other Pacific Islander, AIAN = American Indian or Alaska Native; **HL = Hispanic or Latino

5. Health Characteristics of Veterans Using CIH Therapies and Chiropractic Care, FY19

Table 6 describes Veterans' health conditions among those using CIH therapies and chiropractic care in FY19. A few noteworthy patterns emerged:

- **Chronic musculoskeletal pain:** This type of pain was common among CIH therapy and chiropractic care users. Compared to the overall VA healthcare user population, Veterans using CIH therapies or chiropractic care were more than twice as likely to have chronic musculoskeletal pain (22.7% vs. 55.1%, respectively). Also, for Veterans using each of the therapies examined, at least half had chronic musculoskeletal pain, with it being most prevalent among users of traditional (64.0%) and Battlefield (67.4%) acupuncture.
- **Mental health:** Veterans using these therapies were more likely to have depression, anxiety or post-traumatic stress disorder (PTSD) (54.2%) compared to the overall VA healthcare user population in FY19 (32.6%). Among CIH therapy and chiropractic care users, 23.3% had an anxiety disorder, 31.0% had depression and 33.0% had PTSD. Also, over 70% of users of meditation, biofeedback, guided imagery, yoga, or clinical hypnosis had anxiety, depression, or PTSD.
- **Cardiovascular disease:** Veterans using these therapies also had lower rates of cardiovascular disease compared to the overall VA healthcare user population (50.7% vs. 60.1%). Users of Tai Chi/Qigong and guided imagery were the most likely to have cardiovascular disease compared with users of other CIH therapies or chiropractic care.
- **Diabetes:** Diabetes was almost as prevalent among CIH therapy users as it was among the overall VA healthcare user population (21.4% vs. 24.3%). Also, over a quarter of Veterans using Tai Chi/Qigong (29.2%), guided imagery (27.0%), clinical hypnosis (26.7%), meditation (25.6%), or Battlefield Acupuncture (25.9%) had diabetes.
- **Obesity:** Obesity was only slightly more common among users of any CIH therapy or chiropractic care compared to the overall VA healthcare user population (23.6% vs. 17.4%). Veterans using Tai Chi/Qigong (35.7%), yoga (32.1%), or guided imagery (33.4%) had the highest proportion of obesity relative to Veterans using the other therapies.

Table 6. Health Condition Characteristics of Veterans Using CIH Therapies and Chiropractic Care, FY19

Conditions		All VA Patients	Any Therapy	Chiro-practic	Acup.- Trad.	Acup.- BFA	Massage Therapy	Medi-tation	Yoga	Tai Chi/ Qigong	Biofeed-back	Guided Imagery	Clinical Hypnosis
Number of Users		5,260,921	302,298	159,507	112,826	27,991	38,582	15,317	14,424	9,806	3,534	1,340	1,138
Chronic Musculoskeletal Pain		22.7%	55.1%	50.9%	64.0%	67.4%	56.5%	52.1%	54.9%	54.9%	59.1%	59.9%	60.6%
Mental Health Conditions	Anxiety	13.2%	23.3%	22.0%	23.5%	27.2%	22.0%	36.1%	32.0%	28.2%	45.1%	33.5%	32.9%
	Depression	17.2%	31.0%	27.3%	32.4%	37.6%	28.9%	49.3%	47.1%	42.4%	51.6%	47.9%	45.8%
	PTSD*	18.0%	33.0%	31.3%	34.4%	35.2%	31.4%	46.2%	47.4%	41.2%	52.2%	42.8%	42.4%
	Any of the above	32.6%	54.2%	50.8%	56.0%	59.1%	52.1%	76.1%	72.2%	66.0%	80.8%	70.8%	70.5%
Chronic Conditions	CVD**	60.1%	50.7%	45.5%	53.9%	58.6%	51.4%	56.5%	54.1%	61.1%	48.6%	60.4%	56.4%
	Diabetes	24.3%	21.4%	18.3%	23.2%	25.9%	22.4%	25.6%	23.1%	29.2%	20.0%	27.0%	26.7%
	Obesity	17.4%	23.6%	22.2%	24.4%	27.0%	23.6%	29.9%	32.1%	35.7%	25.7%	33.4%	27.9%
	Any of the above	68.5%	62.1%	57.2%	65.0%	69.5%	62.9%	68.7%	67.5%	74.7%	61.0%	73.0%	69.9%

* PTSD = post-traumatic stress disorder; ** CVD = cardiovascular disease (includes hypertension)

Part D: Veterans’ Use of Community-Based Traditional Acupuncture, Chiropractic Care and Massage Therapy

In 2014, Congress passed the “Choice Act,” which gave Veterans access to healthcare delivered by community-based providers, but paid for by the VA, for any Veteran living too far from or having to wait too long for care from a VA-based provider. Among the therapies provided by community-based providers, we examined massage therapy, acupuncture and chiropractic care because they are by far the most common of the ten therapies we examined to be accessed by community-based providers. Table 7 shows that in FY19, 159,386 Veterans completed 1,907,706 community-based visits for traditional acupuncture, chiropractic care and massage therapy, which was an increase of 36.2% of users and 31.7% of visits from FY18. The largest increases were seen for massage therapy.

Table 7. 2-Year Trends in Veterans’ Use of Community-Based Traditional Acupuncture, Chiropractic Care and Massage Therapy, FY18-FY19

CIH Therapy	FY18		FY19		% Change Number of Users FY18 to FY19	% Change Number of Visits FY18 to FY19
	Number of Users	Number of Visits	Number of Users	Number of Visits		
Massage Therapy	12,222	198,428	21,099	318,358	72.6%	60.4%
Acupuncture Traditional	52,190	537,728	69,836	681,448	33.8%	26.7%
Chiropractic	69,355	711,830	96,096	907,900	38.6%	27.5%
Any of the Above	117,043	1,447,986	159,386	1,907,706	36.2%	31.7%

We also examined how Veterans’ use of community-based providers compared to their use of VA-based providers for traditional acupuncture, chiropractic care and massage. Figure 6 below depicts the number of Veterans using these therapies between FY18 and FY19 while Figure 7 depicts their number of visits. Figure 6 shows that more Veterans used community-based providers for these three therapies than VA-based providers in both FY18 (117,043 vs. 92,318 respectively) and FY19 (159,386 vs. 114,131 respectively). Figure 6 also shows that the number of Veterans utilizing community-based therapies from FY18 to FY19 increased more than the number using VA-based care (36% vs. 24%).

Figure 7 depicts a slightly different story. Veterans made over three times as many visits to community-based providers than to VA-based providers in both FY18 (1,447,986 vs. 443,235 respectively) and FY19 (1,907,706 vs. 572,174 respectively). Also, the growth in the number of visits Veterans made to community-based providers from FY18 to FY19 (32%) was slightly higher than it was for their visits to VA-based providers (29%).

Figure 6. Number of Veterans Using Community- and VA-based Traditional Acupuncture, Massage and Chiropractic Care

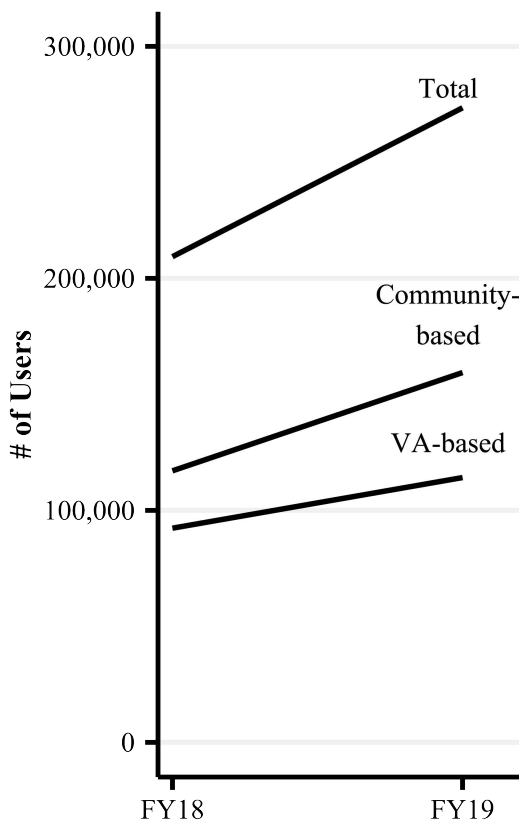
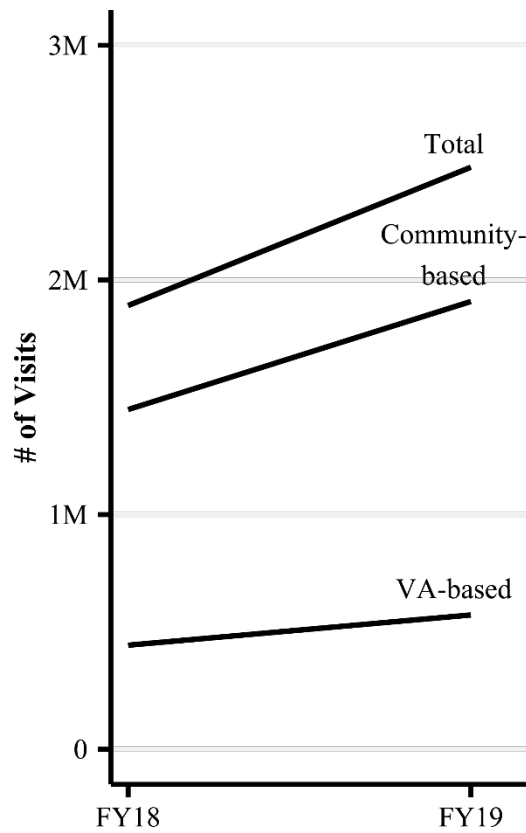


Figure 7. Number of Visits to Community- and VA-based Traditional Acupuncture, Massage and Chiropractic Care



We also examined Veterans' use of traditional acupuncture, chiropractic care, and massage therapy delivered by community-based providers across VISNs. Table 8 shows that in FY19, the percentage of Veterans using these community-based therapies ranged from a high for Veterans in VISNs 9 (4.4%), 20 (6.2%) and 21 (5.4%) to a low in VISNs 5 (1.9%), 7 (1.5%) and 16 (1.8%).

Table 8. Veterans' Use of Community-Based Chiropractic Care, Traditional Acupuncture and Massage Therapy by VISN, FY19 (% of All VA Users in the VISN)

VISN	Number of VA Patients in VISN	Any of the 3 Therapies	Chiropractic Care	Acupuncture Traditional	Massage Therapy
1	210,415	7,172 (3.4%)	3,722 (1.8%)	3,569 (1.7%)	843 (0.4%)
2	232,383	4,638 (2.0%)	1,840 (0.8%)	1,825 (0.8%)	1,821 (0.8%)
4	245,460	5,217 (2.1%)	2,540 (1.0%)	2,899 (1.2%)	403 (0.2%)
5	162,458	3,165 (1.9%)	1,040 (0.6%)	2,235 (1.4%)	358 (0.2%)
6	336,493	9,643 (2.9%)	4,906 (1.5%)	5,338 (1.6%)	935 (0.3%)
7	387,891	5,886 (1.5%)	3,198 (0.8%)	2,966 (0.8%)	368 (0.1%)
8	508,439	13,328 (2.6%)	6,344 (1.2%)	6,554 (1.3%)	1,892 (0.4%)
9	235,622	10,324 (4.4%)	4,093 (1.7%)	6,906 (2.9%)	754 (0.3%)
10	397,006	9,506 (2.4%)	3,765 (0.9%)	6,272 (1.6%)	676 (0.2%)
12	234,385	7,594 (3.2%)	3,827 (1.6%)	4,314 (1.8%)	206 (0.1%)
15	211,765	5,717 (2.7%)	1,875 (0.9%)	4,456 (2.1%)	353 (0.2%)
16	356,645	6,405 (1.8%)	2,638 (0.7%)	3,868 (1.1%)	1,123 (0.3%)
17	296,514	7,171 (2.4%)	1,724 (0.6%)	5,512 (1.9%)	675 (0.2%)
19	259,185	10,439 (4.0%)	3,970 (1.5%)	7,154 (2.8%)	1,775 (0.7%)
20	240,812	14,932 (6.2%)	5,560 (2.3%)	10,577 (4.4%)	2,530 (1.1%)
21	265,114	14,300 (5.4%)	6,808 (2.6%)	8,699 (3.3%)	2,531 (1.0%)
22	403,748	15,759 (3.9%)	8,936 (2.2%)	7,788 (1.9%)	2,192 (0.5%)
23	276,578	8,190 (3.0%)	3,050 (1.1%)	5,164 (1.9%)	1,664 (0.6%)

The table below shows the demographic characteristics of Veterans using community-based traditional acupuncture, chiropractic care and massage therapy. They appeared more likely to be female and younger compared to the overall VA healthcare user population.

Table 9. Demographic Characteristics of Veterans Using Community-Based Chiropractic Care, Traditional Acupuncture and Massage Therapy, FY19

		All VA Patients	Any of the 3 Therapies	Chiropractic Care	Acupuncture - Traditional	Massage Therapy
Overall		5,260,921	159,387	96,097	69,836	21,099
Gender	Male	91.0%	82.3%	82.9%	80.7%	81.1%
	Female	9.0%	17.7%	17.1%	19.3%	18.9%
Age	18 – 39	13.2%	23.1%	27.7%	17.2%	23.1%
	40 – 49	9.5%	17.9%	19.2%	16.6%	18.8%
	50 – 59	14.4%	20.2%	19.6%	21.3%	20.8%
	60 – 69	22.6%	19.8%	18.0%	22.2%	19.1%
	70 +	40.3%	19.0%	15.4%	22.8%	18.3%
Race*	White	71.9%	72.2%	73.5%	69.8%	72.5%
	AA	17.5%	14.7%	13.1%	16.9%	12.9%
	Asian	1.1%	2.5%	2.4%	2.8%	2.8%
	NHOPI	0.8%	1.6%	1.8%	1.6%	2.5%
	AIAN	0.8%	1.0%	1.1%	1.0%	1.0%
	Unknown	8.0%	8.0%	8.1%	7.9%	8.2%
Ethnicity**	Not HL	90.7%	89.4%	90.0%	89.6%	85.8%
	HL	6.2%	8.2%	7.5%	8.2%	11.8%
	Unknown	3.1%	2.4%	2.5%	2.3%	2.4%
Urban	Yes	76.7%	75.3%	72.2%	80.5%	73.3%
	No	22.1%	23.2%	26.6%	19.0%	20.3%
	Unknown	1.3%	1.5%	1.2%	0.5%	6.4%

*AA = Black or African American, NHOPI = Native Hawaiian or Other Pacific Islander, AIAN = American Indian or Alaska Native; **HL = Hispanic or Latino

The table below shows the health condition characteristics of Veterans using community-based traditional acupuncture, chiropractic care and massage therapy. They appeared more likely to have chronic musculoskeletal pain, anxiety, depression, or PTSD than the overall VA healthcare user population and less likely to have cardiovascular disease or diabetes. Users of community-based care also were slightly more likely to have diagnosed obesity than the VA healthcare user population.

Table 10. Health Condition Characteristics of Veterans Using Community-Based CIH Therapies and Chiropractic Care, FY19

		All VA Patients	Any of the 3 Therapies	Chiropractic Care	Acupuncture-Traditional	Massage Therapy
Number of Users		5,260,921	159,387	96,097	69,836	21,099
Chronic Musculoskeletal Pain		22.7%	52.2%	46.8%	61.1%	52.9%
Mental Health Conditions	Anxiety	13.2%	21.7%	21.2%	22.9%	22.6%
	Depression	17.2%	28.0%	26.0%	31.4%	28.7%
	PTSD*	18.0%	31.6%	30.9%	33.8%	32.3%
	Any of the above	32.6%	51.5%	49.7%	55.0%	52.7%
Chronic Conditions	CVD**	60.1%	46.8%	42.7%	51.7%	45.9%
	Diabetes	24.3%	19.1%	16.8%	21.8%	19.2%
	Obesity	17.4%	22.1%	21.4%	23.1%	22.8%
	Any of the above	68.5%	58.4%	54.6%	62.7%	58.0%

* PTSD = post-traumatic stress disorder; ** CVD= cardiovascular disease (includes hypertension)

Conclusions

In summary, these findings indicate that VA’s efforts to implement CIH therapies and chiropractic care to offer Veterans some non-pharmacological options to manage their health and well-being have some success. VA facilities are continuing to work towards further standing up these therapies, and with continued investment, are likely to succeed in sustaining them. As part of the Whole Health System transformation, further efforts are necessary to not only achieve a wider implementation of these therapies, but to achieve a true cultural change in the way care is delivered throughout the VA healthcare system.

Methodology

In general, we examined Veterans' use of nine CIH therapies and chiropractic care for fiscal years (FY) 2017 to 2019 (October 2017 to September 2019). We used VA electronic health record data reflecting visits provided at the VA and data from the VA's community care billing data reflecting visits provided in the community. Those nine therapies are the eight CIH therapies approved to be offered as part of the standard VA medical benefits package plus Battlefield Acupuncture. As mentioned earlier, some in the healthcare field still consider chiropractic care to be complementary, but it has been considered allopathic care in the VA for years. As such, we mention chiropractic care separately in this report.

Description of CIH Therapies and Chiropractic Care

Below are basic descriptions of the therapies we examined:

Traditional acupuncture – Acupuncture is an ancient form of healthcare that may involve the treatment of a person with sterile thin needles to access acupuncture points to affect a change on the body. The VA uses the following providers to deliver full body acupuncture: licensed acupuncturists, medical acupuncturists and chiropractic acupuncturists.

Battlefield Acupuncture (BFA) – This is a protocolized acupuncture treatment performed by trained professionals for the purpose of relieving acute and/or chronic pain. The protocol involves specific ear points and is widely taught within the VA system to a variety of healthcare providers.

Massage therapy – Clinical massage therapy is the manipulation of the soft tissues of the human body for therapeutic purposes. Based in ancient traditions, massage therapy is a professional healthcare discipline in the U.S.

Chiropractic care – Chiropractors are licensed independent practitioners in VHA who provide examination, diagnosis, treatment, and management of neuromuscular and musculoskeletal conditions. Chiropractic treatment includes options such as patient education, therapeutic exercise, lifestyle recommendations, joint manipulation and mobilization, soft tissue therapies, and other conservative approaches.

Biofeedback – Biofeedback is a process that uses your body's own signals like heart rate and body temperature to bring about healthy changes. Neurofeedback (or EEG biofeedback) is a type of biofeedback that specifically uses brain wave signals to bring about healthy changes. Biofeedback can improve health issues that are caused or worsened by stress. Using a two-step process, biofeedback can help you relax and reduce your stress. Neurofeedback can improve health through shifting brain wave patterns in such a way there is a concomitant shift in cognition or mood. Clinical biofeedback involves interaction between a provider, a client, and a machine/device providing feedback from body-derived signals.

Guided imagery – Guided imagery involves using a series of multi-sensory images designed to trigger specific changes in physiology, emotions, or mental state for the purpose of increasing healing responses or unconscious changes. Guided imagery often begins with a series of

relaxation techniques, although this is not always so. Often guided imagery is performed as a self-help option without the involvement of a professional. However, in more complex situations, guided imagery is done in a clinical setting either one-on-one or in group.

Clinical hypnosis – Clinical hypnosis is the process of (a) deliberately triggering a trance state and then (b) utilizing that state to encourage helpful cognitive, emotional, or physical healing responses. A trance is a natural biological state of inner absorption, concentration and focused attention. Clinical hypnosis and hypnotherapy are not the same as hypnosis. Hypnosis is the process of triggering a trance state in an individual. It's not usually geared towards therapeutic change, but just for relaxation or increasing compliance. Without a clinician using additional tools to cause change while the person is in trance, there rarely is lasting benefit to hypnosis beyond relaxation and temporary stress reduction. Clinical hypnosis and hypnotherapy are advanced skills in which a trained professional uses hypnosis to cause specific change. Clinical hypnosis and hypnotherapy are used extensively in the medical and mental health fields.

Meditation – Meditation is a defined practice or technique, often arising from a contemplative tradition, that primarily focuses on training attention regulation processes, with the intent of cultivating general mental well-being and/or specific capacities such as concentration, compassion or insight. To differentiate from hypnosis, guided imagery, psychotherapies, the focus is on training attentional processes, rather than specifically targeting a change in mental contents. For this report, we included several types of meditation, such as mantram repetition, mindfulness, mindfulness-based stress reduction, and iRest Yoga Nidra.

Yoga – Yoga is a mind and body practice with origins in ancient Indian philosophy. The various styles of yoga typically combine physical postures, breathing techniques, and meditation or relaxation.

Tai Chi/Qigong – Tai Chi is a mind-body exercise combining slow-flowing intentional movements with breathing, awareness, and visualization. Rooted in the Asian traditions of martial arts, Chinese medicine, and philosophy, Tai Chi enhances relaxation, vitality, focus, posture, balance, strength, flexibility, and mood. Qigong is an ancient Chinese healing art, older than, and similar to Tai Chi, with a focus on cultivating the body's vital energy or qi. It involves the coordination of the breath, posture, awareness, visualization, and focused movements. Qigong may be a stationary or moving meditation. Though Tai Chi and Qigong are different practices, they stem from the same roots and are based on similar concepts. As such, we combined Veterans' use of these two CIH therapies for the purposes of this report.

Analysis

We conducted only univariate (descriptive) analysis and no bivariate or multivariate analyses to examine therapy use. The Veteran population of CIH therapy and chiropractic care users was very large (302,296 Veterans made 2,792,653 visits in FY19). Due to the large sample sizes, tests of statistical significance are unlikely to provide meaningful insight. Instead, we present trends that appear qualitatively noteworthy.

Cohort definition

We report CIH therapy and chiropractic care use among a nationwide cohort of VA healthcare users. This cohort included every Veteran with a recorded primary care, mental health, or pain clinic visit in the VA electronic health records within FY17, FY18 or FY19. We identified these visits by using the following VA stop codes: 322, 323, 348, 350, 420, 502, 509, 510, 513, 533, 534, 539, 540, 550, 562, and 565. If a Veteran had more than one qualifying visit in a fiscal year, we used their latest visit in the year. If a Veteran had a qualifying visit at more than one VA facility in the fiscal year, they were (for the purposes of analysis) associated with the facility at which their most recent visit took place.

Also, we examined utilization of CIH therapies and chiropractic care among Veterans with three types of health conditions: 1) chronic musculoskeletal pain, 2) mental health conditions and 3) chronic health conditions, as detailed below.

Chronic Musculoskeletal Pain – We identified patients having this type of pain by extracting data from the VA electronic health records using an algorithm developed by the VA-DoD Pain Management Collaboratory. This uses two criteria to determine if a Veteran has documented moderate-to-severe chronic musculoskeletal pain. First, Veterans were required to have two moderate-to-severe pain severity scores on the numeric rating scale (NRS ≥ 4) in the year prior to the index visit, separated by at least 30 days (we defined “index visits” as their latest visit within the FY17–FY19 period to the three departments noted above). Second, we looked for documentation of a diagnosis (ICD10) code related to musculoskeletal pain in the electronic health record in the year prior to the index visit. Codes were selected by their ICD10 code category and subcategory and included the following (which is a subset of the categories identified by Goulet, *et al*, 2016).³¹

Back pain
Neck pain
Limb/extremity pain, joint pain and arthritic disorders, except:
- Gout and other crystal arthropathies
- Neuropathic arthropathy
Fibromyalgia
Headache: include only Tension Type Headache (TTH)
Orofacial, ear, and temporomandibular disorder pain
Musculoskeletal chest pain
Other painful conditions: include only general pain

Veterans were characterized as having chronic musculoskeletal pain if they met both of these criteria in the year prior to (and including) the date of their index visit.

Mental Health Conditions – To identify Veterans with selected mental health conditions (depression, anxiety, or PTSD), we adapted ICD10 diagnosis codes from an ICD9 diagnosis code list developed by the VA’s Primary Care Analytics Team (PCAT)³² using AHRQ’s MapIT tool (available at <https://www.qualityindicators.ahrq.gov/Resources/Toolkits.aspx>) and the 2018

mapping of ICD9 to ICD10 codes. Veterans were characterized as having one of these mental health conditions if we found documentation of a diagnosis in the year prior to their index visit.

Chronic Health Conditions – Similarly, we identified Veterans with selected chronic health conditions (cardiovascular disease, diabetes or obesity) by the presence of a documented diagnosis (by ICD10 code) in the year prior to their index visit. We adapted ICD10 diagnosis codes from the ICD9 codes in the Elixhauser comorbidity index³³ using the AHRQ MapIT tool as described above.

Detailed Methods for Service Utilization

We used CPT codes (if applicable), clinic stop codes (chiropractic care only), clinic location names, CHAR4 codes, clinic note titles, health factors, and community care billing information (by CPT code – chiropractic care, acupuncture, and massage only) to identify utilization of CIH therapies and chiropractic care among the annual cohorts. We developed the search terms based on guidance from OPCC&CT, reported methods from an evaluation of Whole Health Flagship sites¹⁸ and feedback from subject matter experts. See below for details on how we identified provision of each service. To avoid double-counting the same actual event, we combined evidence from different data sources for the same type of therapy provided to a single patient on a single day into a single episode of care. For example, if we found one or more CPT codes for acupuncture and a CHAR4 code for acupuncture on the same day, this was coded only as a single acupuncture encounter.

Coding Variation in the VA Electronic Health Record. As we noted above, we relied on several types of codes because few CIH therapies are associated with established medical coding methods (e.g., CPT codes). Also, the coding of therapy use can vary significantly across the healthcare system, within a single facility, and even over time, as therapies become more established. Capturing and integrating data from many parts of the electronic health record allows us to capture as much utilization as possible, even if coding is not yet standardized.

Below, we present two Venn diagrams to visually demonstrate this variation in coding practices, where each region of the diagram represents a coding method (e.g., CPT codes, health factors/note titles and clinic location names) and the numbers represent the number of encounters in a given period that are associated with each method. The Venn diagram for acupuncture coding (Figure 8 below) shows that the vast majority of the 615,480 traditional acupuncture encounters are associated with a defined set of CPT codes and, as such, CPT codes can be used to capture almost all of the utilization, even if other data sources (e.g., clinic note titles) are less consistently used. Conversely, the Venn diagram for meditation (Figure 9 below) shows that reliably identifying the 131,340 meditation encounters requires using data from both structured (CHAR4) and semi-structured data sources (e.g., clinic location names and notes).

Figures 8 and 9. Number of Encounters by Type of Data Coding for Acupuncture and Meditation

Figure 8. Acupuncture

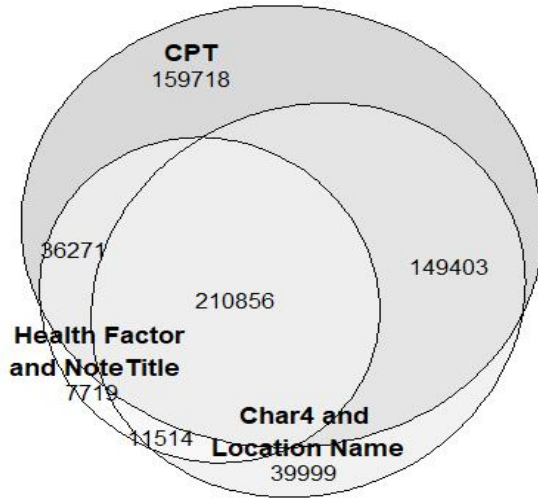
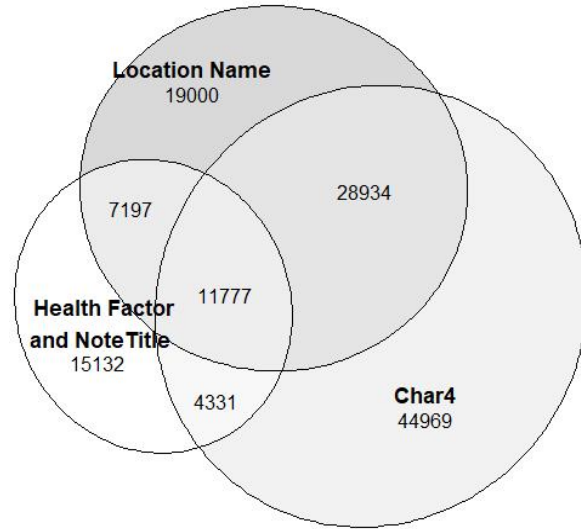


Figure 9. Meditation



Type of Data Coding	Encounters
CPT	159,718
Health Factor and Note Title (HFNT)	7,719
Char4 and Location Name (C4LN)	39,999
CPT and HFNT	36,271
CPT and C4LN	149,403
HFNT and C4LN	11,514
All	210,856

Type of Data Coding	Encounters
Char4	44,969
Health Factor and Note Title (HFNT)	15,132
Location Name (LN)	19,000
Char4 and HFNT	4,331
Char4 and LN	28,934
HFNT and LN	7,197
All	11,777

Search Terms Used. Here we present the specific search terms we used to identify CIH and chiropractic care therapies received in the VA healthcare system.

Visit Type	CPT Code	Char4 Code	Stop Code	Search Strings ¹
Chiropractic Care	98940, 98941, 98942, 98943	RHGC	436	Includes: ‘chiro’ <i>Does not include:</i> ‘acup’, ‘fol up’, ‘rsvp’, ‘bfa’, ‘fee’
Acupuncture ²	97810, 97811, 97813, 97814, S8930	BFA: IACT Trad: ACUP		Traditional Includes: ‘acup’, ‘acpu’ Traditional excludes: ‘bfa’, ‘battlefield’ <i>BFA Includes:</i> ‘battlefield’, ‘bfa’ <i>All exclude:</i> ‘acupressure’, ‘labfasting’, ‘chiro’, ‘instruction’
Massage Therapy	97124	MSGT		<i>Includes:</i> ‘massage’ <i>Excludes:</i> ‘Acupressure’
Yoga		YOGA		<i>Includes:</i> ‘yoga’ <i>Excludes:</i> ‘irest’
Tai Chi/Qigong		TAIC		<i>Includes:</i> ‘taichi’, ‘tai chi’, ‘taic’, ‘taiji’, ‘taiji’, ‘qigong’, ‘qi gong’
Meditation ³		MANT MBSR MDTN MMMT		<i>Includes:</i> ‘mindful’, ‘mantram’, ‘meditation’, ‘irest’, ‘mbsr’ <i>Excludes:</i> ‘yoga’, ‘eating’ ‘oncology’, ‘child’
Guided Imagery (GIMA)		GIMA		<i>Includes:</i> ‘guided’, ‘imagery’, ‘guided image’ <i>Excludes:</i> ‘biopsy’, ‘core’, ‘ultrasound’, ‘med’, ‘procedure’, ‘teach’, ‘radiology’, ‘placement’, ‘oncology’
Clinical Hypnosis (Hypn)	90880	HYPN		<i>Includes:</i> ‘hypn’, ‘hypno’, ‘hypnosis’, ‘hypnotherapy’ <i>Excludes:</i> ‘hypnotic’
Biofeedback (BioF)	90875, 90876, 90911, 90901	BIOF		<i>Includes:</i> ‘biofeed’, ‘bio feed’, ‘neurofeed’, ‘neuro feed’ <i>Excludes:</i> ‘consult’, ‘cancel’

¹ Search strings are used to generate lists of Clinic Names, Note titles, and Health Factor titles utilized to record therapy provision

² We searched for Battlefield Acupuncture (BFA) separately from traditional acupuncture. Daily utilization was categorized as BFA if any of the data from that day was consistent with BFA.

³ We did not distinguish between the different types of meditation practice offered in the VA such as Mantram Repetition, Mindfulness, Mindfulness-Based Stress Reduction, iRest Yoga Nidra, etc.

Exclusions. We made efforts to exclude records that satisfied our search terms but were associated with no show visits or were administrative visits without provision of care. These could include referrals to VA services, community care, consultations, or other notes. We employed three strategies to exclude these visits:

- 1) Excluding administrative stop codes associated with referrals to community-based care from the outpatient visits queried – We only applied this filter to therapies commonly referred to the community: acupuncture, massage and chiropractic care. Community-based care received was identified using the PIT tables, as described above. Administrative stop codes excluded: 655, 656, 660, 669, and 674.
- 2) Excluding administrative strings from the unstructured searches – We excluded locations, note titles, and health factors that included these strings even if they also included the strings we searched for above. Strings excluded from unstructured searches: ‘research’, ‘rsch’, ‘messaging’, ‘choice’, ‘community care’, ‘non va’, ‘vcp’, ‘consult’, ‘telephone’, ‘referral’, ‘outside’, and ‘no show’. We note that this exclusion is not an overriding exclusion – so a visit with one of these notes that is also associated with a CPT code or health factor consistent with service provision, the visit will count towards utilization.
- 3) Applying overarching exclusions – “No show” visits are often noted with a note recorded in the Outpatient visit record. Visits that were only associated with a clinic name and not any other indication of service were queried to see if they were associated with a “No show” or other administrative note. If so, they were excluded. The overarching notes excluding location only visits are: ‘choice referral’, ‘community care referral’, ‘non va referral’, and ‘no show’.

Community-Based Care Data. We also searched the community-based care billing information (the VA’s Program Integrity Tool [PIT] Professional Claims data) by CPT code to identify community-based chiropractic care, traditional acupuncture and massage therapy. As with the VA data, we count community care utilization on the level of the patient-day, and combined CPT codes associated with the same type of therapy on the same day into a single encounter. Due to changes in how community-based claims are processed, data in the PIT tables from FY17 may be incomplete, so we examined only FY18 and FY19 data (partial FY17 data is included in the overall utilization numbers analyzed here).

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