Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Dichotomous pain outcomes

Outcome	Opioid (n=119) [a]	Non-opioid (n=119) [b]	Between-group difference in percent (95% CI)	P-value [c]
Functional response, n (%) [d]				
3 months	54 (50.9)	61 (53.0)	-2.1 (-15.4, 11.2)	0.75
6 months	70 (60.3)	63 (54.3)	6.0 (-6.8, 18.9)	0.35
9 months	60 (56.1)	63 (58.9)	-2.8 (-16.2, 10.6)	0.68
12 months	69 (59.0)	71 (60.7)	-1.7 (-14.4, 11.0)	0.79
Pain intensity response, n (%) [e]				
3 months	35 (33.3)	53 (46.1)	-12.8 (-25.7, 0.2)	0.05
6 months	47 (40.5)	56 (48.3)	-7.8 (-20.6, 5.1)	0.23
9 months	40 (37.0)	60 (56.1)	-19.0 (-32.3, -5.8)	0.005
12 months	48 (41.0)	63 (53.9)	-12.8 (-25.6, -0.0)	0.050
Global pain ≥ moderately better, n (%) [f]				
3 months	39 (36.8)	41 (35.7)	1.1 (-11.7, 14.0)	0.86
6 months	52 (44.8)	42 (36.2)	8.6 (-4.1, 21.3)	0.18
9 months	46 (42.6)	47 (43.9)	-1.3 (-14.7, 12.1)	0.84
12 months	52 (44.4)	51 (44.4)	0.0 (-12.8, 13.0)	0.99

a. Opioid group number assessed is 119 at baseline, 106 at 3 months, 116 at 6 months, 108 at 9 months, and 117 at 12 months. Additional missing responses are indicated in footnotes for specific measures.

b. Non-opioid group number assessed is 119 at baseline, 115 at 3 months, 116 at 6 months, 107 at 9 months, and 117 at 12 months. Additional missing responses are indicated in footnotes for specific measures.

c. P-values from chi-square tests at each time point.

d. Functional response is defined as ≥ 30% decrease in Brief Pain Inventory interference score from baseline.

e. Pain intensity response is defined as ≥ 30% decrease in Brief Pain Inventory severity score from baseline. Missing 1 opioid patient at 9 months.

f. Patient-reported global change in pain was rated by asking, "How would you describe your pain now, compared to when you started in our study?" with response options of "much better, moderately better, a little better, no change, a little worse, moderately worse, much worse." Clinically important improvement was defined as response of "moderately better" or "much better". Missing 2 non-opioid patients at 12 months.

eTable 2. Additional secondary outcomes: change in physical tests, cognitive tests, and testosterone levels from baseline to 12 months

Outcome	Opioid		Non-opioid		Between-group difference in change (95% CI) [b]
	Baseline	Change [a]	Baseline	Change [a]	
Physical tests, mean (SD)					
FAB balance score [c]	31.0 (7.6)	-0.8 (5.5)	29.5 (8.5)	-1.3 (4.7)	0.4 (-1.0, 1.9)
	n = 119	n = 104	n = 116	n = 98	
6-meter gait speed, seconds [d]	5.7 (1.5)	-0.0 (0.9)	5.9 (1.7)	-0.0 (0.9)	0.0 (-0.2, 0.3)
	n = 119	n = 105	n = 119	n = 98	
Chair stands, number [e]	7.2 (3.6)	1.5 (3.7)	6.8 (3.6)	0.9 (3.4)	0.6 (-0.4, 1.6)
	n = 119	n = 106	n = 118	n = 99	
Grip strength, kg [f]	34.8 (11.4)	1.2 (7.1)	35.6 (12.2)	0.7 (5.8)	0.5 (-1.3, 2.3)
	n = 118	n = 102	n = 117	n = 98	
Pain tolerance, seconds [g]	73.7 (68.3)	11.6 (68.3)	65.1 (72.4)	19.7 (50.0.)	-8.1 (-29.7, 13.5)
	n = 92	n = 70	n = 77	n = 56	
Cognitive tests, mean score (SD) [h]					
Rey AVLT total learning [i]	44.5 (9.8)	6.0 (6.9)	42.3 (11.2)	5.4 (7.4)	0.7 (-1.4, 2.7)
	n = 114	n = 99	n = 113	n = 95	
Rey AVLT delay [i]	8.5 (3.5)	0.9 (2.3)	7.5 (3.8)	1.2 (2.4)	-0.2 (-0.9, 0.4)
	n = 114	n = 99	n = 115	n = 97	
Digit span total [j]	19.8 (4.3)	0.1 (2.6)	19.1 (4.3)	0.2 (2.9)	-0.1 (-0.9, 0.7)
	n = 114	n = 99	n = 113	n = 97	
SDMT correct [k]	45.2 (10.1)	1.0 (6.2)	42.4 (9.9)	1.6 (6.8)	-0.5 (-2.4, 1.3)
	n = 114	n = 99	n = 113	n = 97	
COWA total [l]	38.6 (11.9)	2.7 (6.9)	35.7 (11.9)	2.0 (9.1)	0.7 (-1.6, 3.0)
	n = 114	n = 99	n = 113	n = 97	
Free serum testosterone [m]	269 (142)	-10 (112)	275 (123)	-7 (95)	-3 (-35, 28)
	n = 98	n = 85	n = 97	n = 87	

Abbreviations: AVLT, Auditory Verbal Learning Test; COWA, Controlled Oral Word Association; FAB, Fullerton Advanced Balance scale; SDMT, Symbol Digit Modalities Test

a. Change is the 12-month value minus baseline value for each measure.
b. Unadjusted between-group difference in change score
c. Multi-dimensional test of static and dynamic balance (range 0-40); lower scores indicate worse balance and scores <25 are associated with recurrent falling.
d. Patients were asked to walk 6 meters at a comfortable pace; score is the average time in seconds from 2 attempts (higher is better).
e. Patients were asked to rise to a full stand from a seated position as many times as possible in 30 seconds (higher is better).
f. Patients were asked to squeeze a JAMAR hand dynamometer with maximum strength; score is the average of 3 attempts with the dominant hand (range 0-90 kg; higher is better).
g. Patients were asked to keep their non-dominant hand submerged in a Polyscience circulating bath (propylene glycol and water at 1° C) until it became too uncomfortable to continue. Pain tolerance is duration the hand was submerged; patients were not allowed to continue beyond 5 minutes (range 0-300 seconds; higher is better).
h. The Indiana University Telephone-Based Assessment of Neuropsychological Status (IU-TBANS) cognitive test battery was used to evaluate potential treatment-related cognitive changes. Citation: Unverzagt FW, Monahan PO, Moser L, et al. The Indiana University Telephone-Based Assessment of Neuropsychological Status: A new method for large scale neuropsychological assessment. Journal of the International Neuropsychological Society, 2007;13(5): 799-806.
i. A test of verbal learning and memory (total learning range 0-75; delayed recall range 0-15; higher is better).
j. A test of attention and working memory (range 0-30; higher is better).
k. A test of attention and working memory (range 0-110; higher is better).
l. A test of executive function and verbal fluency (minimum score 0; no fixed upper score; higher is better).
m. Results include only male patients (values reported as <10.0 were recorded as 10).

eTable 3. Main pain and adverse symptom outcomes stratified by primary pain diagnosis [a]

Outcome	Back pain [b]			Hip/knee osteoarthritis pain [c]		
	Mean (SD)		Between-group difference [d] (95% CI)	Mean (SD)		Between-group difference [d] (95% CI)
	Opioid (n=78)	Non-opioid (n=78)		Opioid (n=41)	Non-opioid (n=41)	
Pain-related function (BPI interference; range 0-10; higher is worse) [e]						
Baseline	5.1 (1.6)	5.6 (2.1)	-0.4 (-1.0, 0.2)	6.0 (2.2)	5.6 (1.7)	0.5 (-0.3, 1.4)
3 months	3.5 (1.9)	3.8 (2.3)	-0.3 (-1.0, 0.4)	4.0 (2.5)	3.5 (2.2)	0.6 (-0.5, 1.6)
6 months	3.1 (1.8)	3.5 (2.6)	-0.4 (-1.1, 0.3)	4.1 (2.6)	3.8 (2.2)	0.3 (-0.7, 1.4)
9 months	3.4 (2.0)	3.2 (2.4)	0.2 (-0.6, 0.9)	4.1 (2.4)	3.3 (2.4)	0.8 (-0.3, 1.9)
12 months	2.9 (2.1)	3.3 (2.6)	-0.4 (-1.2, 0.3)	4.4 (2.8)	3.4 (2.6)	1.1 (-0.1, 2.3)
Pain intensity (BPI severity; range 0-10; higher is worse) [f]						
Baseline	5.3 (1.4)	5.5 (1.2)	-0.2 (-0.6, 0.2)	5.7 (1.8)	5.4 (1.4)	0.3 (-0.4, 1.0)
3 months	4.3 (1.7)	4.1 (1.7)	0.2 (-0.4, 0.7)	4.3 (2.0)	3.8 (1.6)	0.5 (-0.3, 1.3)
6 months	3.8 (1.6)	4.1 (2.0)	-0.2 (-0.8, 0.3)	4.5 (2.1)	4.0 (1.7)	0.5 (-0.4, 1.3)
9 months	4.1 (1.6)	3.5 (1.8)	0.5 (-0.0, 1.1)	4.6 (2.0)	3.6 (1.6)	1.0 (0.2, 1.9)
12 months	3.7 (1.8)	3.6 (2.0)	0.1 (-0.5, 0.8)	4.5 (2.2)	3.4 (1.8)	1.1 (0.2, 2.0)
Medication-related adverse symptoms (checklist range 0-19; higher is worse) [g]						
Baseline	1.0 (1.8)	1.1 (1.7)	-0.0 (-0.6, 0.5)	1.4 (2.0)	1.3 (2.4)	0.0 (-0.9, 1.0)
3 months	2.3 (2.6)	1.6 (2.1)	0.7 (-0.1, 1.5)	2.4 (2.4)	0.7 (1.0)	1.7 (0.9, 2.6)
6 months	2.0 (2.9)	1.5 (2.3)	0.5 (-0.3, 1.4)	2.2 (2.4)	1.1 (2.2)	1.1 (0.1, 2.1)
9 months	1.9 (2.8)	1.2 (2.2)	0.7 (-0.1, 1.6)	1.8 (2.8)	0.3 (0.7)	1.5 (0.6, 2.4)
12 months	2.0 (2.7)	1.0 (2.0)	0.9 (0.1, 1.7)	1.5 (2.2)	0.6 (1.3)	0.9 (0.1, 1.7)

Abbreviations: BPI, Brief Pain Inventory.

a. Patients self-identified one condition as their most bothersome pain problem.

b. In the primary back pain subgroup, the opioid number assessed is 78 at baseline, 69 at 3 months, 77 at 6 months, 72 at 9 months, and 77 at 12 months; the non-opioid number assessed is 78 at baseline, 76 at 3 months, 75 at 6 months, 70 at 9 months, and 76 at 12 months. Additional missing responses are indicated in footnotes for specific measures.

c. In the primary hip or knee osteoarthritis subgroup, the opioid number assessed is 41 at baseline, 37 at 3 months, 39 at 6 months, 36 at 9 months, and 40 at 12 months; the non-opioid number assessed is 41 at baseline, 39 at 3 months, 41 at 6 months, 37 at 9 months, and 41 at 12 months. Additional missing responses are indicated in footnotes for specific measures.

d. Unadjusted time-specific between-group comparisons.
e. In osteoarthritis subgroup, missing 1 opioid patient at 9 months. The post-hoc statistical test for interaction of primary pain diagnosis (i.e., back pain, osteoarthritis pain) by treatment group was not significant (p=0.25).
f. In back subgroup, missing 1 opioid patient at 3 months. The post-hoc statistical test for interaction of primary pain diagnosis (i.e., back pain, osteoarthritis pain) by treatment group was not significant (p=0.34).
g. In back subgroup, missing 1 opioid patient at 6 months and 2 opioid patients at 12 months. In osteoarthritis subgroup, missing 1 opioid patient at 12 months, 1 non-opioid patient at 3 months, and 1 non-opioid patient at 6 months.

eTable 4. Main pain and adverse symptom outcomes stratified by sex

Outcome	Mean (SD)			
	Female [a]		Male [b]	
	Opioid (n=16)	Non-opioid (n=15)	Opioid (n=103)	Non-opioid (n=104)
Pain-related function (BPI interference; range 0-10; higher is worse) [c]				
Baseline	6.1 (1.8)	6.5 (2.5)	5.3 (1.8)	5.4 (1.8)
3 months	4.4 (2.6)	3.5 (2.3)	3.6 (2.1)	3.7 (2.2)
6 months	3.6 (2.3)	2.5 (1.6)	3.4 (2.1)	3.8 (2.5)
9 months	3.2 (2.0)	2.8 (2.2)	3.7 (2.2)	3.3 (2.4)
12 months	3.8 (2.0)	2.9 (2.6)	3.3 (2.6)	3.3 (2.6)
Pain intensity (BPI severity; range 0-10; higher is worse) [d]				
Baseline	5.6 (1.4)	5.9 (0.9)	5.4 (1.5)	5.4 (1.2)
3 months	4.7 (2.1)	3.4 (1.7)	4.2 (1.8)	4.1 (1.7)
6 months	4.4 (1.9)	3.4 (1.6)	4.0 (1.8)	4.1 (1.9)
9 months	3.8 (1.7)	3.2 (1.3)	4.3 (1.7)	3.6 (1.8)
12 months	4.2 (1.6)	3.1 (1.7)	3.9 (2.1)	3.6 (1.9)
Medication-related adverse symptoms (checklist range 0-19; higher is worse) [e]				
Baseline	2.2 (2.7)	1.3 (1.7)	1.0 (1.7)	1.1 (2.0)
3 months	3.2 (2.5)	1.6 (1.9)	2.2 (2.5)	1.2 (1.8)
6 months	2.5 (2.5)	1.3 (1.6)	2.0 (2.8)	1.3 (2.4)
9 months	2.4 (2.8)	0.9 (1.3)	1.8 (2.8)	0.9 (1.9)
12 months	2.3 (2.0)	0.3 (1.1)	1.7 (2.7)	1.0 (1.8)

Abbreviations: BPI, Brief Pain Inventory.

a. In the female subgroup, the opioid number assessed is 16 at baseline, 12 at 3 months, 16 at 6 months, 12 at 9 months, and 16 at 12 months; the non-opioid number assessed is 15 at baseline, 15 at 3 months, 13 at 6 months, 14 at 9 months, and 13 at 12 months. Additional missing responses are indicated in footnotes for specific measures.

b. In the male subgroup, the opioid number assessed is 103 at baseline, 94 at 3 months, 100 at 6 months, 96 at 9 months, and 101 at 12 months; the non-opioid number assessed is 104 at baseline, 100 at 3 months, 103 at 6 months, 92 at 9 months, and 104 at 12 months. Additional missing responses are indicated in footnotes for specific measures.

c. In male subgroup, missing 1 opioid patient at 9 months.

d. In male subgroup, missing 1 opioid patient at 3 months.

e. In female subgroup, missing 1 opioid patient at 6 months. In male subgroup, missing 1 non-opioid patient at 3 months, 1 non-opioid patient at 6 months, and 2 opioid patients and 3 non-opioid patients at 12 months.

eTable 5. Main pain and adverse symptom outcomes stratified by age

Outcome	Mean (SD)			
	Age < 65 years [a]		Age ≥ 65 years [b]	
	Opioid (n=72)	Non-opioid (n=63)	Opioid (n=47)	Non-opioid (n=56)
Pain-related function (BPI interference; range 0-10; higher is worse) [c]				
Baseline	5.7 (1.8)	5.9 (2.0)	5.1 (1.9)	5.1 (1.8)
3 months	4.0 (2.0)	4.1 (2.3)	3.2 (2.3)	3.3 (2.0)
6 months	3.6 (2.1)	3.9 (2.4)	3.1 (2.2)	3.3 (2.4)
9 months	3.8 (2.3)	3.4 (2.4)	3.4 (1.9)	3.1 (2.3)
12 months	3.5 (2.6)	3.4 (2.6)	3.2 (2.3)	3.2 (2.5)
Pain intensity (BPI severity; range 0-10; higher is worse) [d]				
Baseline	5.7 (1.5)	5.5 (1.1)	5.0 (1.4)	5.3 (1.3)
3 months	4.5 (1.7)	4.1 (1.7)	3.9 (1.9)	3.9 (1.7)
6 months	4.2 (1.8)	4.3 (1.8)	3.8 (1.9)	3.8 (2.0)
9 months	4.5 (1.9)	3.7 (1.6)	3.9 (1.4)	3.5 (1.8)
12 months	4.1 (2.1)	3.5 (1.9)	3.8 (1.8)	3.5 (1.9)
Medication-related adverse symptoms (checklist range 0-19; higher is worse) [e]				
Baseline	1.3 (2.1)	1.3 (2.2)	1.0 (1.5)	1.0 (1.6)
3 months	2.5 (2.6)	1.6 (2.2)	2.1 (2.5)	1.0 (1.3)
6 months	2.3 (3.0)	1.0 (1.7)	1.7 (2.1)	1.7 (2.8)
9 months	2.1 (3.1)	0.8 (1.8)	1.6 (2.3)	1.0 (1.9)
12 months	2.0 (2.9)	0.6 (1.3)	1.4 (2.0)	1.2 (2.2)

Abbreviations: BPI, Brief Pain Inventory.

a. In the age < 65 subgroup, the opioid number assessed is 72 at baseline, 62 at 3 months, 70 at 6 months, 63 at 9 months, and 71 at 12 months; the non-opioid number assessed is 63 at baseline, 60 at 3 months, 60 at 6 months, 54 at 9 months, and 62 at 12 months. Additional missing responses are indicated in footnotes for specific measures.

b. In the age ≥ 65 subgroup, the opioid number assessed is 47 at baseline, 44 at 3 months, 46 at 6 months, 45 at 9 months, and 46 at 12 months; the non-opioid number assessed is 56 at baseline, 55 at 3 months, 56 at 6 months, 53 at 9 months, and 55 at 12 months. Additional missing responses are indicated in footnotes for specific measures.

c. In the age ≥ 65 subgroup, missing 1 opioid patient at 9 months.

d. In the age <65 subgroup, missing 1 opioid patient at 3 months.

e. In the age <65 subgroup, missing 1 non-opioid patient at 3 months, 1 opioid patient and 1 non-opioid patient at 6 months, and 3 opioid patients and 2 non-opioid patients at 12 months. In the age ≥ 65 subgroup, missing 1 non-opioid patient at 12 months.

eTable 6. Reasons for discontinuation of assigned medication therapy [a]

	Opioid (n=23)	**Non-opioid (n=10)**
Patient decided to stop assigned medication treatment	N=16 • Side effects (n=9) • Improved pain (n=2) • New medical illness (n=2) • Employment restrictions (n=1) • Intervention burden (n=1) • Unspecified (n=1)	N=8 • Lack of benefit (n=5) • Intervention burden (n=2) • Unspecified (n=1)
Primary physician requested discontinuation of assigned medication treatment	N=2 • New central sleep apnea (n=1) • Cannabis use (n=1)	--
Patient lost to intervention follow-up	N=5	N=2

a. During the 12-month intervention period, 23 (19%) opioid patients and 10 (8%) non-opioid patients discontinued assigned medication therapy. Patients made the decision to stop assigned treatment in 24 cases, primary care physicians made the decision to stop assigned treatment in 2 cases, and patients were lost to intervention follow-up and gave no reason in 7 cases.

eTable 7. Study-prescribed opioid daily dosage categories in morphine-equivalent mg/day [a] by treatment group during the 12-month study period

Daily dosage category	n (%) patients	
	Opioid (n=119)	**Non-opioid (n=119)**
3 months		
0 mg	2 (1.7)	115 (96.6)
1 to < 20 mg	61 (56.3)	4 (3.4)
20 to < 50 mg	53 (44.5)	0 (0)
≥ 50 mg	3 (2.5)	0 (0)
6 months		
0 mg	19 (16.0)	113 (95.0)
1 to < 20 mg	47 (39.5)	6 (5.0)
20 to < 50 mg	40 (33.6)	0 (0)
≥ 50 mg	13 (10.9)	0 (0)
9 months		
0 mg	24 (20.2)	111 (93.3)
1 to < 20 mg	38 (31.9)	8 (6.7)
20 to < 50 mg	43 (36.1)	0 (0)
≥ 50 mg	14 (11.8)	0 (0)
12 months		
0 mg	24 (20.2)	106 (89.1)
1 to < 20 mg	51 (42.9)	12 (10.1)
20 to < 50 mg	29 (24.4)	1 (0.8)
≥ 50 mg	15 (12.6)	0 (0)

a. Medication dispensing data were extracted from EMR databases. Mean daily dosage is calculated as the total morphine-equivalent mg of all study-prescribed opioids (including tramadol) dispensed from VA outpatient pharmacies within the prior 90-day window, divided by 90 days.

eTable 8. Overall study-prescribed opioid daily dosage[a] at each follow-up time point by treatment group for all patients and for the subset of patients with dosage > 0 ME mg/day at each time point

All patients				
	Opioid group (n=119)		**Non-opioid group (n=119)**	
	Mean (SD)	**Median (IQR)**	**Mean (SD)**	**Median (IQR)**
3 months	21 (13)	19 (9, 28)	0 (1)	0 (0, 0)
6 months	23 (20)	19 (6, 39)	0 (2)	0 (0, 0)
9 months	22 (21)	18 (2, 37)	0 (2)	0 (0, 0)
12 months	21 (23)	12 (3, 30)	1 (3)	0 (0, 0)
Patients with opioid dosage > 0 ME mg/day at each time point [b]				
	Opioid group [c]		**Non-opioid group [d]**	
	Mean (SD)	**Median (IQR)**	**Mean (SD)**	**Median (IQR)**
3 months	21 (13)	19 (9, 28)	3 (1)	3 (3, 3)
6 months	27 (19)	21 (10, 42)	7 (4)	7 (3, 8)
9 months	28 (20)	27 (11, 42)	7 (4)	8 (3, 9)
12 months	26 (23)	19 (9, 37)	8 (6)	5 (3, 12)

Abbreviations: ME, morphine-equivalent.

a. Medication dispensing data were extracted from EMR databases. Mean daily dosage is calculated as the total morphine-equivalent mg of all study-prescribed opioids (including tramadol) dispensed from VA outpatient pharmacies within the prior 90-day window, divided by 90 days.

b. For each time point, patients who received no opioids within the prior 90-day window are excluded.

c. The number of patients in the opioid group with opioid daily dosage > 0 mg is 117 at 3 months, 100 at 6 months, 95 at 9 months, and 95 at 12 months.

d. The number of patients in the non-opioid group with dosage > 0 mg is 4 at 3 months, 6 at 6 months, 8 at 9 months, and 13 at 12 months.

eTable 9. Non-study pain medications dispensed to participants during the study period [a]

Non-study prescribed opioid daily dosage at each follow-up time point by treatment group, ME mg [b]				
	Opioid group (n=119)		**Non-opioid group (n=119)**	
	Mean (SD)	**Median (IQR)**	**Mean (SD)**	**Median (IQR)**
3 months	0 (1)	0 (0, 0)	1 (3)	0 (0, 0)
6 months	0 (1)	0 (0, 0)	0 (2)	0 (0, 0)
9 months	0 (3)	0 (0, 0)	1 (3)	0 (0, 0)
12 months	1 (3)	0 (0, 0)	1 (2)	0 (0, 0)
Non-study analgesic months, number [c]				
Acetaminophen months	0.2 (0.8)	0.0 (0.0, 0.0)	0.2 (0.9)	0.0 (0.0, 0.0)
Oral NSAID months	0.5 (1.5)	0.0 (0.0, 0.0)	0.5 (1.7)	0.0 (0.0, 0.0)
Analgesic adjunct months	1.8 (4.8)	0.0 (0.0, 0.0)	0.9 (2.9)	0.0 (0.0, 0.0)
Topical months	0.4 (1.4)	0.0 (0.0, 0.0)	0.2 (0.9)	0.0 (0.0, 0.0)
Tramadol months	0.1 (0.7)	0.0 (0.0, 0.0)	0.1 (0.6)	0.0 (0.0, 0.0)
Opioid months [d]	0.1 (0.3)	0.0 (0.0, 0.0)	0.2 (0.8)	0.0 (0.0, 0.0)

Abbreviations: ME, morphine-equivalent.

a. Medication dispensing data were extracted from EMR databases. Patients were instructed to receive medications for chronic back or hip/knee pain only from the study, but patients were not dropped from the study for non-compliance. During the study, patients were prescribed non-study analgesic medications by non-study prescribers for a variety of reasons other than chronic back or hip/knee pain (e.g., post-procedure pain, acute injury pain, diabetic neuropathy). In addition, some patients received medications included in the study drug list for reasons other than pain (e.g., depression).

b. Opioid daily dosage is calculated as the total morphine-equivalent mg of all non-study prescribed opioids (including tramadol) dispensed from VA outpatient pharmacies within the prior 90-day window, divided by 90 days.

c. Analgesic months is the sum of the number of months of non-study medication dispensed from VA outpatient pharmacies for each discrete medication within a category during the 12-month intervention period. For example, a patient dispensed analgesic A for 6 months and analgesic B for 12 months would have 18 analgesic months.

d. Opioids not including tramadol.

eTable 10. Patient-reported co-interventions during the study year[a]

Treatment, n (%)	Opioid group (n=106)	Non-opioid group (n=105)
Acupuncture	7 (7)	9 (9)
Biofeedback	1 (1)	2 (2)
Chiropractic or osteopathic manipulation	24 (23)	15 (14)
Homeopathy or naturopathy	2 (2)	2 (2)
Hypnosis	0	0
Nutritional advice of counseling	11 (10)	13 (12)
Massage	20 (19)	25 (24)
Mental health counseling or therapy	15 (14)	14 (13)
Personal training or supervised exercise therapy	18 (17)	19 (18)
Physical therapy	39 (37)	25 (24)
Injections in spine, such as epidurals or facet blocks	9 (9)	8 (8)
Injections in the knee, hip, or other joints	29 (28)	23 (22)
Surgery for spine (neck or back)	1 (1)	1 (1)
Surgery for knee or hip, such as arthroscopy or joint replacement	3 (3)	8 (8)

a. Non-pharmacological therapies were allowed and not managed by the study. Patients were asked "In the past 12 months since you started the study, have you seen a provider or practitioner for any of the following therapies to manage pain?" Numbers are those responding "yes, during the past year."