Western Health

Learning Outcome 3

Participants will be up to date with best practice management of the most common pain conditions, in particular chronic low back pain and chronic widespread pain/fibromyalgia referred to the Western Health Integrated Pain Service. Case studies will be presented to demonstrate the role of the multidisciplinary team at Western Health in supporting GPs in their management of patients with chronic widespread pain.

Chronic low back pain is the number one reason for referral to our clinic……

Table 17 – Main pain area	WH		All services	
	Number	%	Number	%
Head	2	3.2	782	4.5
Neck	5	8.1	1257	7.2
Chest	0	0.0	338	1.9
Back	27	43.5	7270	41.8
Leg	3	4.8	1174	6.8
Arm/shoulder	4	6.5	2005	11.5
Abdomen	5	8.1	758	4.4
Hands	2	3.2	437	2.5
Feet	0	0.0	820	4.7
Groin/pubic area	1	1.6	415	2.4
Buttocks	0	0.0	0	0.0
Knee	6	9.7	891	5.1
Hip	7	11.3	1236	7.1
Total	**62**	**100.0**	**17383**	**100.0**

Australian Health Services Research Institute, Patient Outcomes in Pain Management, Western Health Pain Management 2023 Mid-Year Report

Case Study 1
Chronic Low back Pain

Western Health

- 57 year old male with 35 year history of chronic low back pain
- Previous L5/S1 posterolateral spinal fusion with failed graft, on waiting list for triple fusion at the Austin
- Recently released from prison (18 month sentence), has stable housing (lives alone) and family supports
- Frustrated++that the pain stops him doing DIY jobs for his family
- Complaining of multiple side effects from pain medication including poor memory and kidney problems
- Worried about further damage to his spine
- Attended the Virtual western Health Informed Pain Clinic & phone consultation
- Says he will ’give anything a go to improve his mood and quality of life’
- Accepted a place on the Virtual Move Do Live pain program, given a Move Do Live pain program manual and borrowed an iPad from CBR

Western Health

Before Virtual Move Do Live

Pathway:	
Current work status:	Not employed due to pain
Work time missed due to pain:	-
Pain affected productivity while working:	-
Overall work impairment due to pain:	-

Health service utilisation in the past 3 months for pain condition:

General practitioner	Medical specialist	Other health professionals	ED presentations	Inpatient admissions	Diagnostic tests
5 times	0 times	0 times	0 times	0 times	0 tests

Medication

Opioid replacement/substitution program?	NO	☑ Opioids	☑ Antidepressants
Daily oral morphine equivalent (mg):	116.0 mg	☑ Paracetamol	☑ Anticonvulsants
Opioid medication > 2 days per week:	YES	☑ NSAIDs	☑ Sedatives
		☐ Medicinal Cannabinoids	

Brief Pain Inventory

Main pain site:	Low back		
Pain severity:	6.8 /10 (0 missing)	Moderate pain	
Pain interference:	6.6 /10 (0 missing)		
Least pain:	4	Average pain:	6
Worst pain:	10	Pain now:	7

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Before Virtual Move Do Live

Western Health

DASS 21		
Depression:	15.0 (0 missing), Full scale score 30 / 42	Extremely severe
Anxiety:	9.0 (0 missing), Full scale score 18 / 42	Severe
Stress:	12.0 (0 missing), Full scale score 24 / 42	Moderate
Total score:	36.0 (0 missing), Full scale score 72 / 126	
Pain Self-Efficacy Questionnaire		
Total score:	9.0 / 60 (0 missing)	Severe
Pain Catasrophising Scale		
Total score:	40.0 / 52 (0 missing)	Severe
Rumination:	16.0 / 16 (0 missing)	
Magnification:	7.0 / 12 (0 missing)	
Helplessness:	17.0 / 24 (0 missing)	

** Not able to score - please see Data Dictionary or Clinical Reference Manual*

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Medication

Western Health

Medication use

Are you taking any medications?

☐ No ☑ Yes

Medication name (as on the label)	Medicine strength (as on the label)	How many do you take per day?	How many days per week do you take this medication?
OLMETEC PLUS 40mg	High	One	7
LERCANIDIPINE-APOTEX 20mg	High	One	7
APX-ROSUVASTATIN 10mg	High	One	7
RABEPRAZOLE 20mg	High	One	7
AMITRIPTYLINE 25mg	Medium	One	7
LYRICA 300mg	High	2	7
TRAMADOL SR 200mg	High	2	7
VALIUM 5mg	Low	1	2-7
INDOCID 100mg, Suppositories	High	One	4-7
DUROGESIC 12 micrograms, patchesrams/hour, Patches	Low	1	1-3
PANADOL OSTEO 675mg	Low	6	7

Did the patient report medication? ☑ Yes ☐ No

Possible differences in patient-reported medications? ☐ Yes ☐ No

Tick all drug groups being taken:

☑ Opioids ☑ Paracetamol ☑ NSAIDs ☐ Medicinal Cannabinoids

☑ Antidepressants ☑ Anticonvulsants ☑ Sedatives

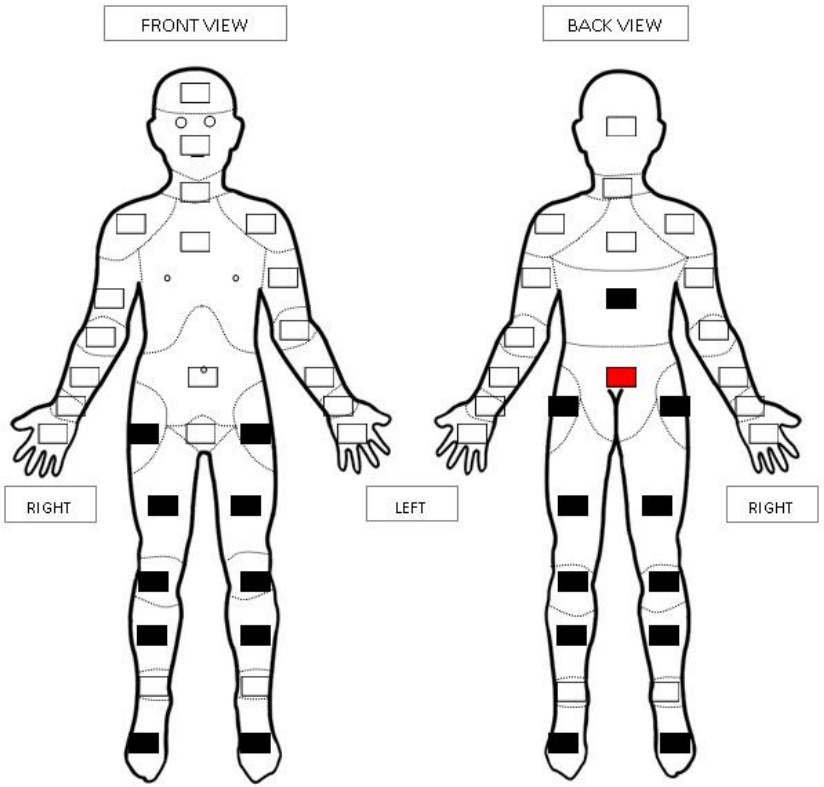
Daily morphine equivalent: 116 mg

Opioid medication >2 days/week ☑ Yes ☐ No

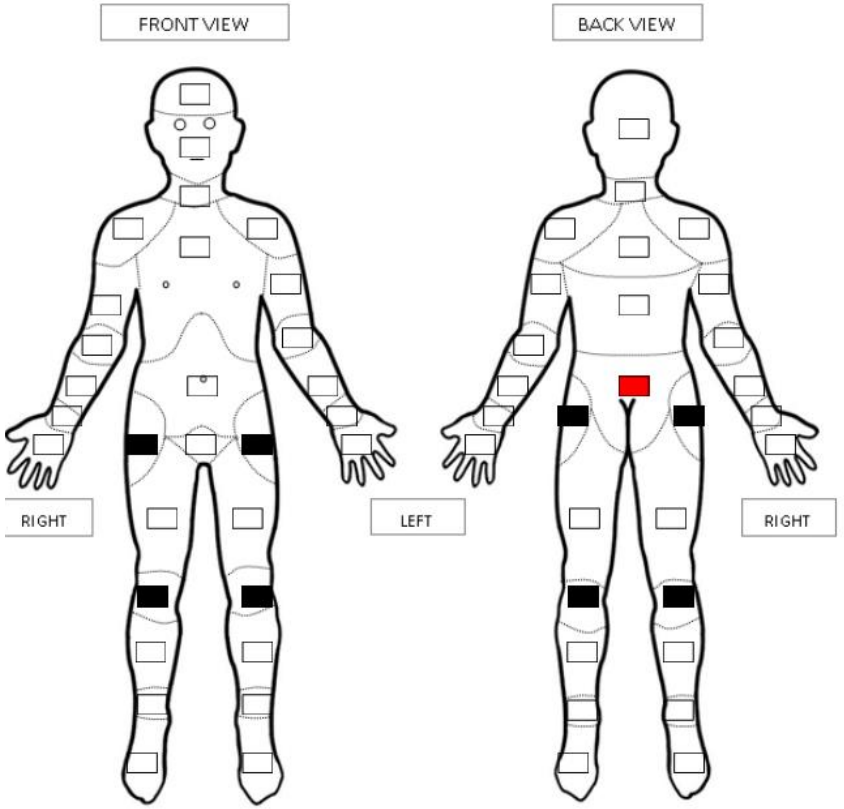
Opioid replacement/substitution program? ☐ Yes ☑ No

Case Study 1
Chronic Low back Pain

Before



After

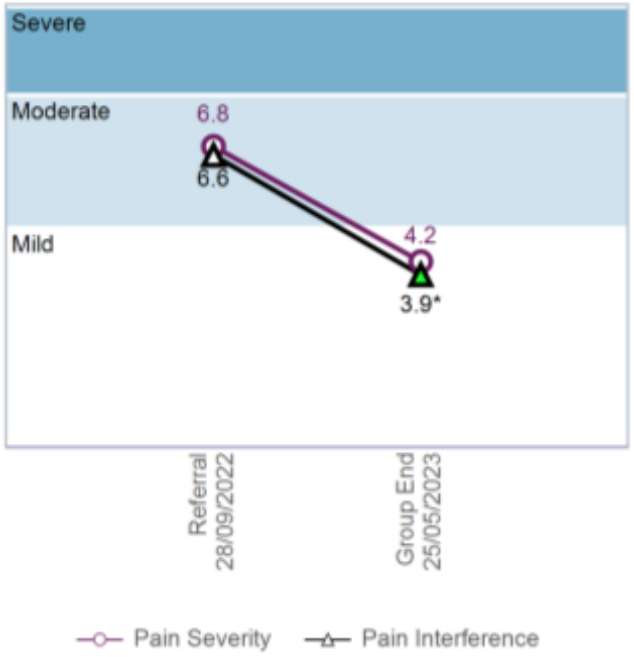


Case Study 1
Chronic Low back Pain

Case Study 1
Chronic Low back Pain

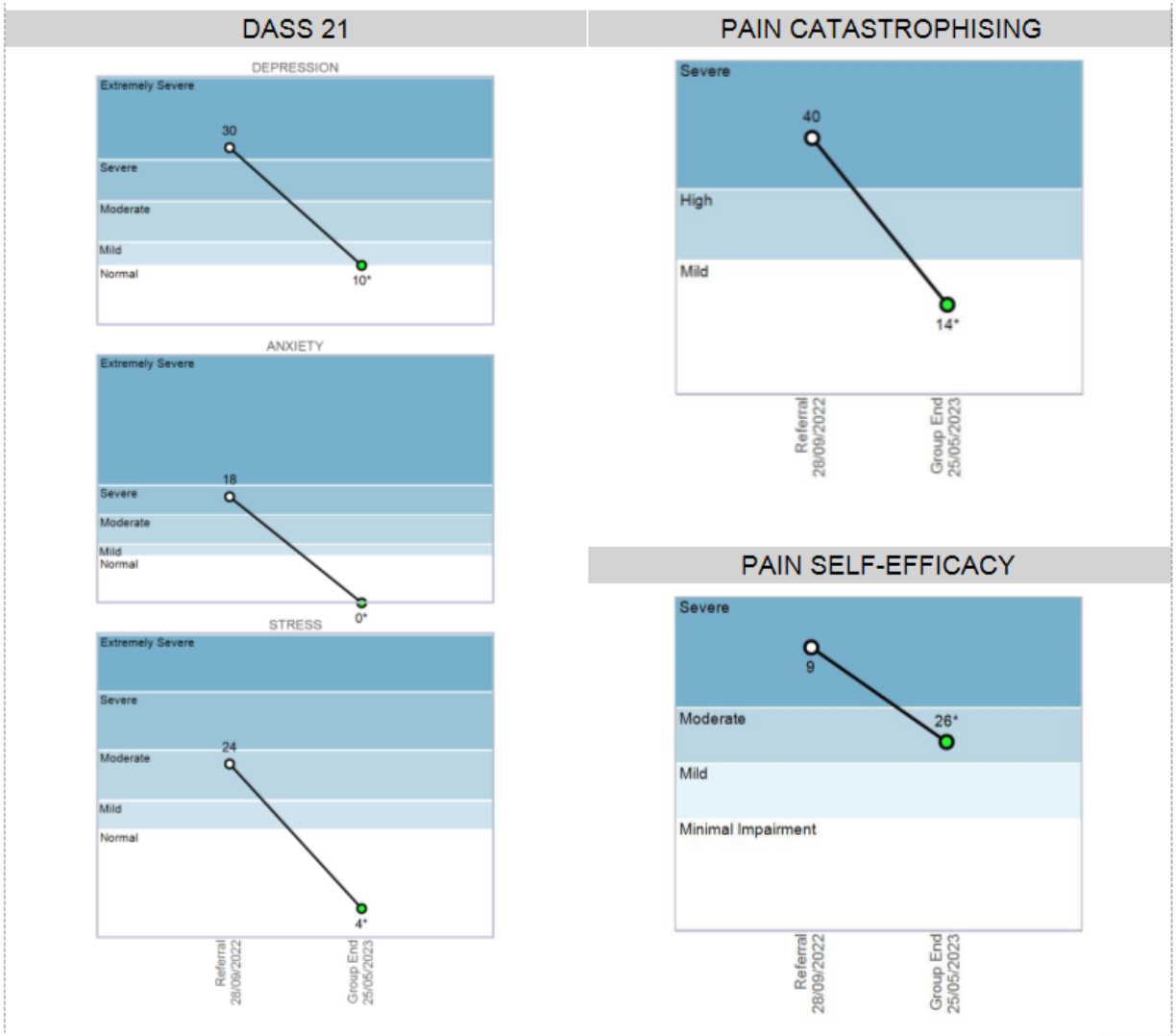
Western Health

PAIN SEVERITY AND INTERFERENCE



Case Study 1
Chronic Low back Pain

Western Health



Medication and Health Care Utilisation

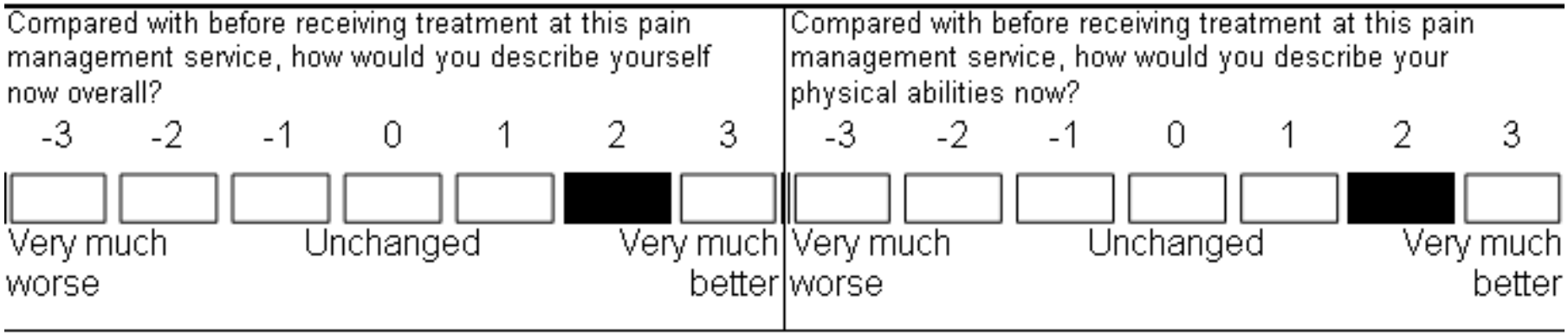
Western Health

Medication	28/9/22	25/5/23
Major drug groups	6	5
Daily morphine equiv	116.0mg	80.0mg
Opioid med > 2 days/wk	YES	YES
Health service utilisation		
General practioner	5	2
Medical specialist	0	1
Other health professional	0	0
ED presentations	0	0
Inpatient admissions	0	0
Diagnostic tests	0	0

Case Study 1
Chronic Low back Pain

Case Study 1
Chronic Low back Pain

Patient Global Rating of Change Scale



- Client back to doing DIY and being more social with his family
- Remains on the waiting list at the Austin for spinal surgery
- Failed to attend review appointment with pain specialist and was discharged from Pain Clinic

Case Study 2
Chronic Low back Pain

- 49 year old female with chronic lower back pain related to known L5/S1 disc, protrusion, and moderate central canal, narrowing, high grade left S1 nerve root compression, mild flattening of S right S1 nerve root origin and exiting right L5 nerve root. Would benefit from multimodal management approach
- Client has stopped working in a warehouse
- Can’t sit for any length of time, mainly spends her time lying down
- Can’t drive because she cannot sit in the driver’s seat without pain flares
- Can’t fly to Europe to see her children who live with their father in Germany which is causing her distress
- Nerve root injection done privately did not improve the pain.
- Accepted a place on the Virtual Move Do Live pain program and given a Move Do Live pain program manual.

Before Virtual Move Do Live

Current work status:	Not employed due to pain
Work time missed due to pain:	-
Pain affected productivity while working:	-
Overall work impairment due to pain:	-

Health service utilisation

in the past 3 months for pain condition:

General practitioner	Medical specialist	Other health professionals	ED presentations	Inpatient admissions	Diagnostic tests
9 times	3 times	11 times	2 times	1 times	4 tests

Medication

Opioid replacement/substitution program?	NO	☑ Opioids	☑ Antidepressants
Daily oral morphine equivalent (mg):	61.0 mg	☑ Paracetamol	☑ Anticonvulsants
Opioid medication > 2 days per week:	YES	☑ NSAIDs	☐ Sedatives
		☐ Medicinal Cannabinoids	

Brief Pain Inventory

Main pain site:	Low back		
Pain severity:	5.5 /10 (0 missing) Moderate pain		
Pain interference:	8.0 /10 (0 missing)		
Least pain:	3	Average pain:	6
Worst pain:	8	Pain now:	5

Before Virtual Move Do Live

DASS 21		
Depression:	7.0 (0 missing), Full scale score 14 / 42	Moderate
Anxiety:	1.0 (0 missing), Full scale score 2 / 42	Normal
Stress:	4.0 (0 missing), Full scale score 8 / 42	Normal
Total score:	12.0 (0 missing), Full scale score 24 / 126	
Pain Self-Efficacy Questionnaire		
Total score:	8.0 / 60 (0 missing)	Severe
Pain Catasrophising Scale		
Total score:	11.0 / 52 (0 missing)	Mild
Rumination:	5.0 / 16 (0 missing)	
Magnification:	2.0 / 12 (0 missing)	
Helplessness:	4.0 / 24 (0 missing)	

Medication

Western Health

Medication use

Are you taking any medications?

☐ No ☑ Yes

Medication name (as on the label)	Medicine strength (as on the label)	How many do you take per day?	How many days per week do you take this medication?
pakexia sr	100mg	2	7
pakexia ir	50 mg	1	7
Lyrica	150mg	2	7
escitalopram	20mg	1	7
Panadol	500mg	6	7
ibuprofen	200	6	7
Paracetamol/codeine	500/30 mg	1-2 at night	7

Did the patient report medication? ☑ Yes ☐ No

Possible differences in patient-reported medications? ☐ Yes ☑ No

Tick all drug groups being taken:

☑ Opioids ☑ Paracetamol ☑ NSAIDs ☐ Medicinal Cannabinoids

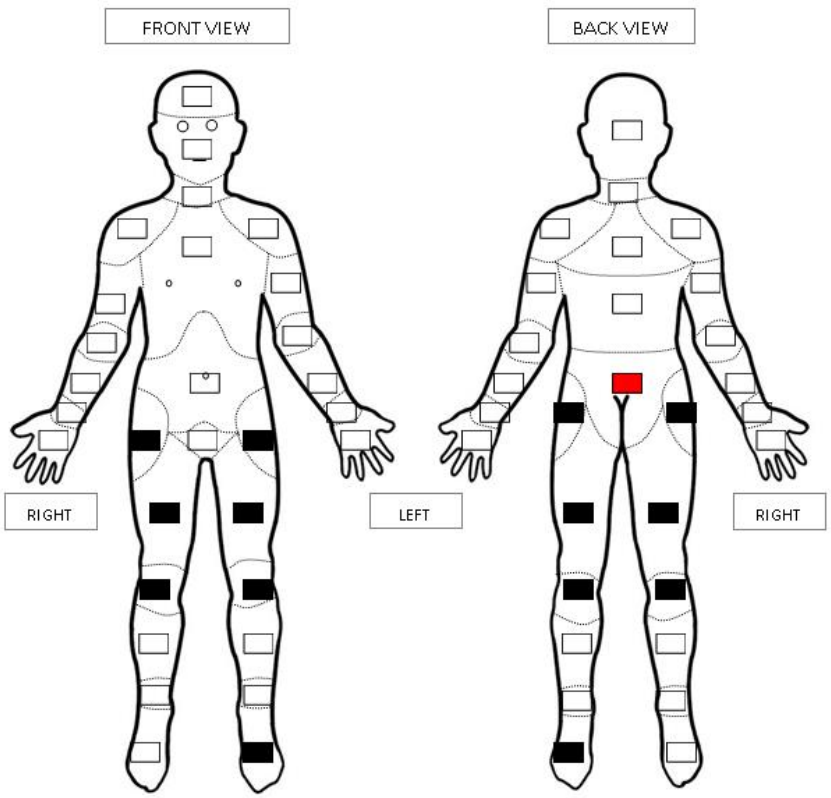
☑ Antidepressants ☑ Anticonvulsants ☐ Sedatives

Daily morphine equivalent: 61 mg

Opioid medication >2 days/week ☑ Yes ☐ No

Opioid replacement/substitution program? ☐ Yes ☑ No

Before



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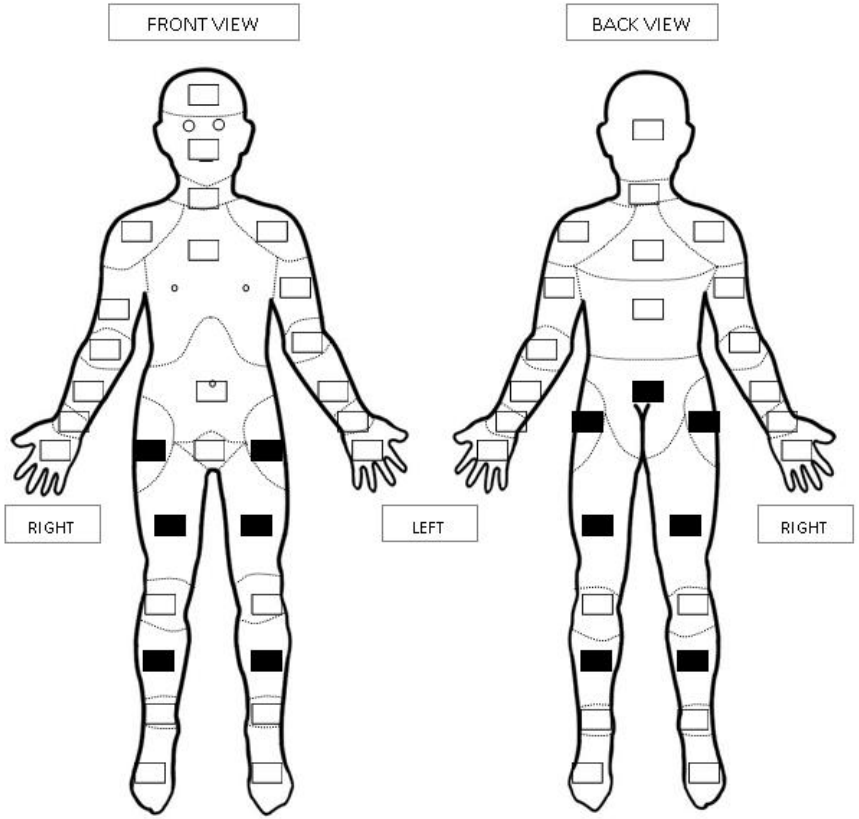
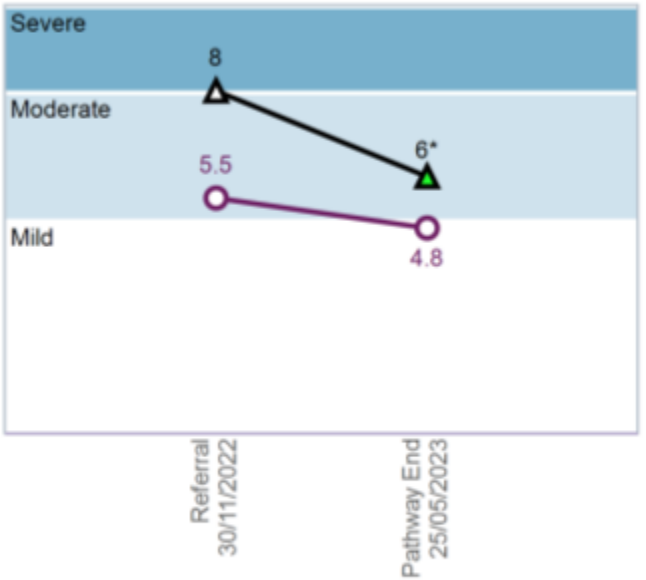


Western Health

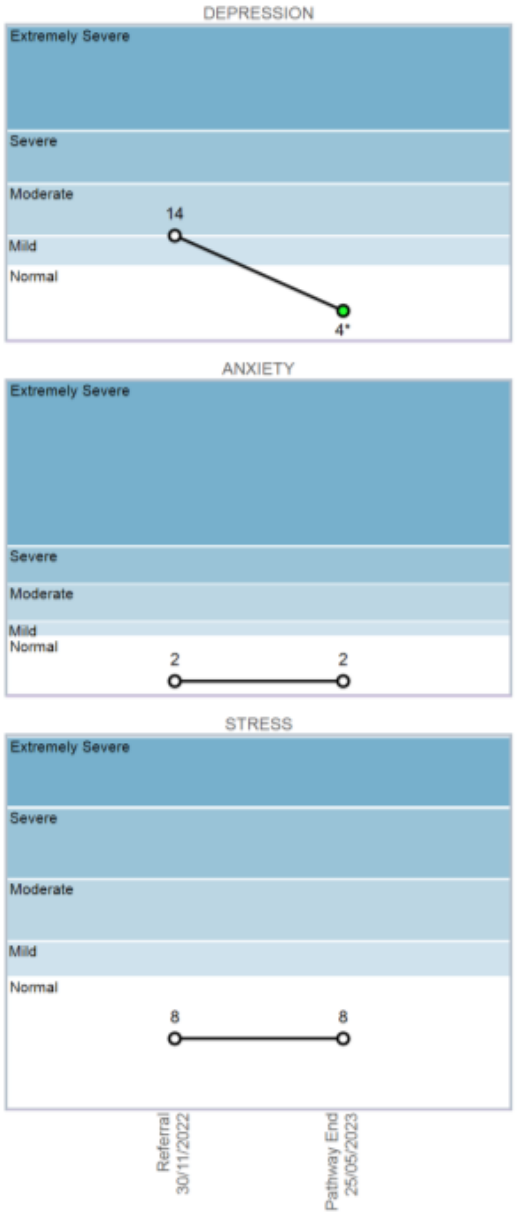
Case Study 2
Chronic Low back Pain

Western Health

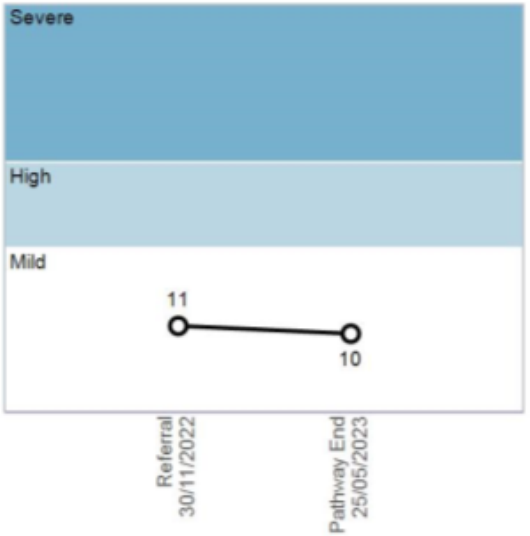
PAIN SEVERITY AND INTERFERENCE



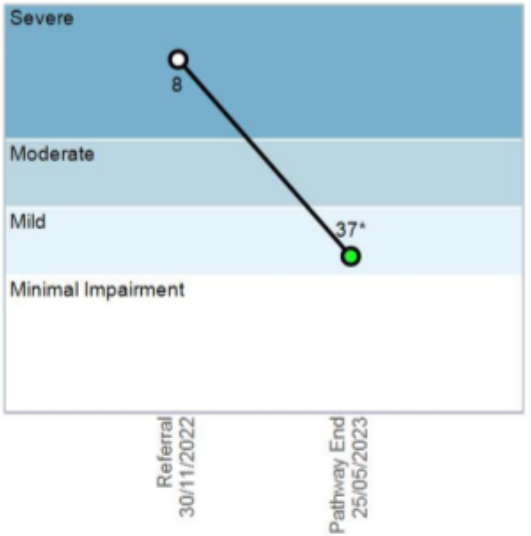
DASS 21



PAIN CATASTROPHISING



PAIN SELF-EFFICACY



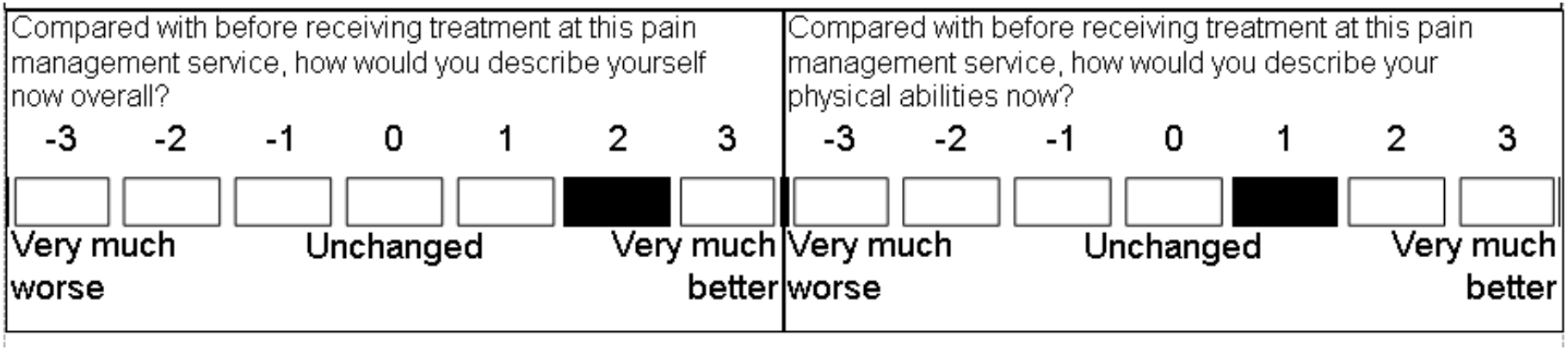
Medication and Health Care Utilization

Western Health

Medication	Before group	After group
Major drug groups	5	5
Daily morphine equiv	61.0mg	40.0mg
Opioid med > 2 days/wk	YES	YES
Health service utilisation		
General practioner	9	4
Medical specialist	3	1
Other health professional	11	4
ED presentations	2	0
Inpatient admissions	1	0
Diagnostic tests	4	0

Case Study 3
Chronic Low back Pain

Patient Global Rating of Change Scale



- Can sit for up to 30 minutes on any chair, is continuing to pace up her sitting tolerance, plans to see her children in Europe in the next school holidays
- Client back to work 1-3 shifts per week, 4 hours per day working as a team leader in her sister's cleaning business, plans to build hours back to full time.
- Exercising and going for walks 3-4 times per week. Practices meditation and uses Flare Up First Aid Plan during times of increased pain.

Widespread pain/fibromyalgia is common in our clinic

Table 18 – Number of pain areas	WH		All services	
	Number	%	Number	%
1	7	8.0	2513	12.1
2-3	21	23.9	6761	32.7
4-6	33	37.5	7449	36.0
7-9	22	25.0	3203	15.5
10+	5	5.7	768	3.7
Total	**88**	**100.0**	**20694**	**100.0**

Case Study 3
Fibromyalgia

Western Health

- 30 year old female diagnosed with a 3 year history of fibromyalgia
- Migraines for the last 8 years
- Then 3 years ago developed pain in her wrists legs and stomach around one of her covid MRNA vaccinations.
- Pain then became widespread over her whole body
- Had to quit her job working in a warehouse18 months ago, now family has financial stress
- First language Punjabi but can read simple English and has children who can help translate
- Accepted a place on the Virtual Move Do Live pain program, given a Move Do Live pain program manual and borrowed an iPad from CBR

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Before Virtual Move Do Live

Western Health

Current work status:	Not employed due to pain
Work time missed due to pain:	-
Pain affected productivity while working:	-
Overall work impairment due to pain:	-

Health service utilisation in the past 3 months for pain condition:

General practitioner	Medical specialist	Other health professionals	ED presentations	Inpatient admissions	Diagnostic tests
7 times	0 times	3 times	0 times	0 times	0 tests

Medication

Opioid replacement/substitution program?	NO	☐ Opioids	☑ Antidepressants
Daily oral morphine equivalent (mg):	0.0 mg	☐ Paracetamol	☑ Anticonvulsants
Opioid medication > 2 days per week	NO	☐ NSAIDs	☐ Sedatives
		☐ Medicinal Cannabinoids	

Brief Pain Inventory

Main pain site:	Left hand		
Pain severity:	6.8 /10 (0 missing) Moderate pain		
Pain interference:	7.9 /10 (0 missing)		
Least pain:	8	Average pain:	5
Worst pain:	8	Pain now:	6

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Before Virtual Move Do Live

DASS 21		
Depression:	13.0 (0 missing), Full scale score 26 / 42	Severe
Anxiety:	9.0 (0 missing), Full scale score 18 / 42	Severe
Stress:	13.0 (0 missing), Full scale score 26 / 42	Severe
Total score:	35.0 (0 missing), Full scale score 70 / 126	
Pain Self-Efficacy Questionnaire		
Total score:	9.0 / 60 (0 missing)	Severe
Pain Catasrophising Scale		
Total score:	36.0 / 52 (0 missing)	Severe
Rumination:	12.0 / 16 (0 missing)	
Magnification:	9.0 / 12 (0 missing)	
Helplessness:	15.0 / 24 (0 missing)	

** Not able to score - please see Data Dictionary or Clinical Reference Manual*

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Medications

Medication use			
Are you taking any medications?			
☐No ☑Yes			
Medication name (as on the label)	Medicine strength (as on the label)	How many do you take per day?	How many days per week do you take this medication?
pregablin	25 mg	1	7
Duloxetine	60mg	1	7
prednisolone	25	1	3
vit D	400iu	1	7
ferrogen iron+ vit c	325mg	1	7
imigran nasal spray	20mg	1	1
Did the patient report medication?		☑Yes	☐No
Possible differences in patient-reported medications?		☐Yes	☑No
Tick all drug groups being taken:			
☐Opioids	☐Paracetamol	☐NSAIDs	☐Medicinal Cannabinoids
☑Antidepressants	☑Anticonvulsants	☐Sedatives	
Daily morphine equivalent: 0 mg			
Opioid medication >2 days/week		☐Yes	☑No
Opioid replacement/substitution program?		☐Yes	☑No

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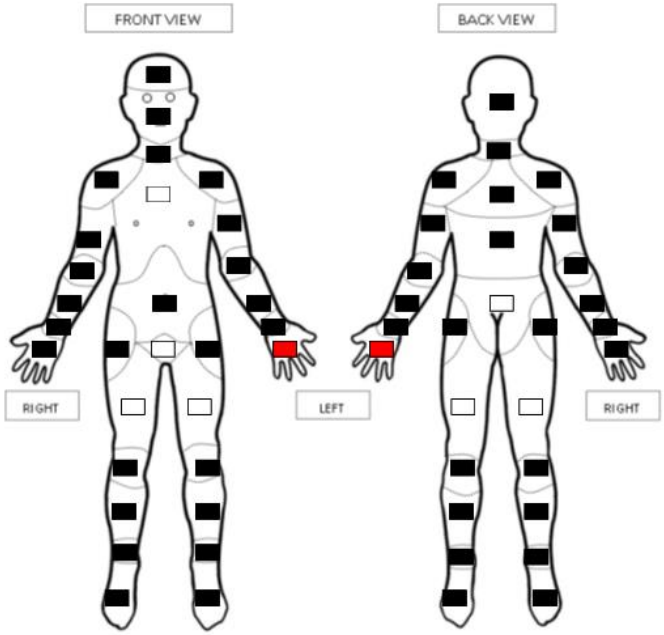
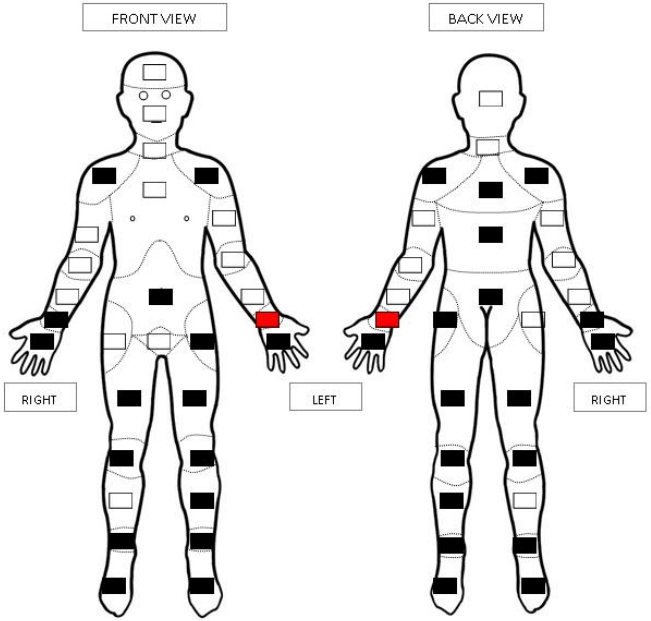
Before and After Virtual Move Do Live



- 28 sites of pain
- Severe pain
- Severe fatigue
- Difficulty sleeping



- 20 sites of pain
- Reduced fatigue
- Improved mood and sleep
- Pain has not changed significantly

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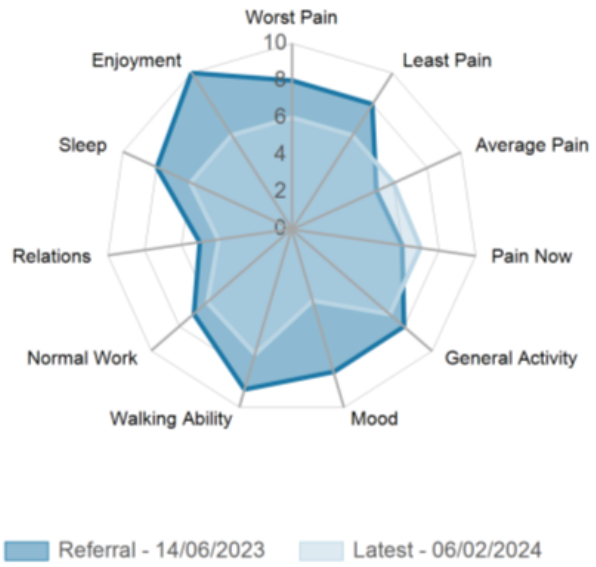
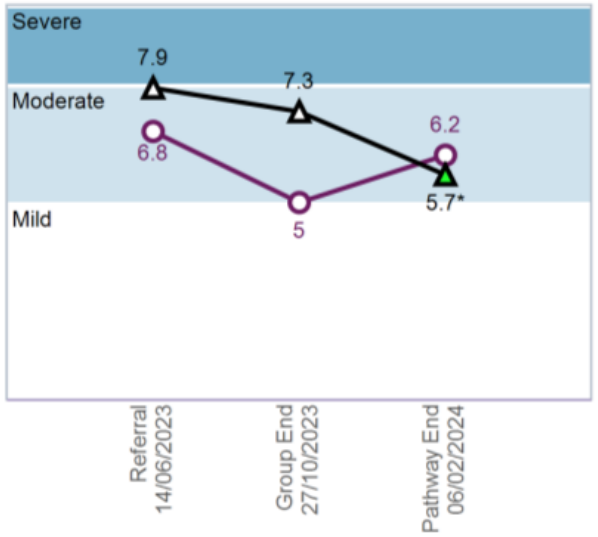
Patient Outcomes

PAIN SEVERITY AND INTERFERENCE





Average Pain Severity has not changed <u>but</u> Worst Pain, Least Pain and Pain interference has all reduced……..

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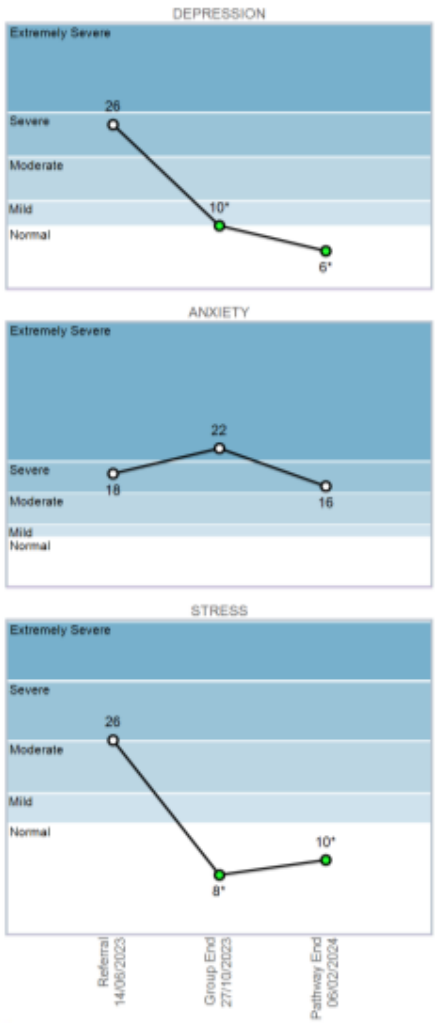
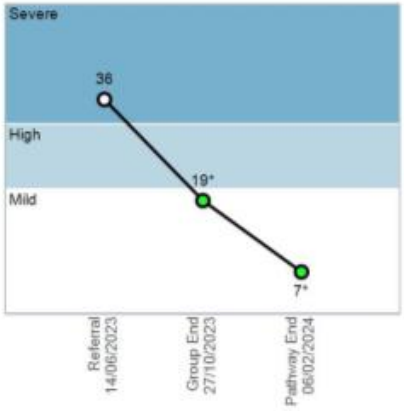
Patient Outcomes

Western Health

DASS 21



PAIN CATASTROPHISING



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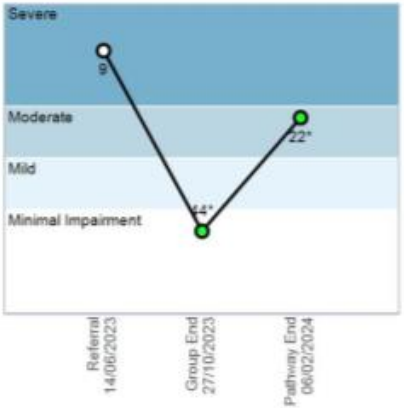

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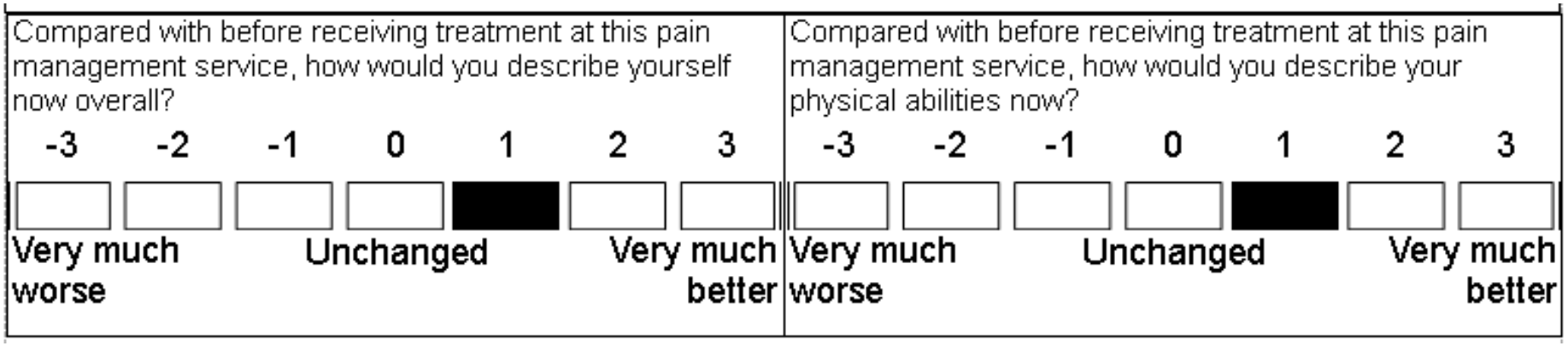
Medication and Health Care Utilization

Reason	Episode Referral	Group Program End	Pathway End
Medication			
Major drug groups	2	4	4
Daily morphine equiv	0.0mg	0.0mg	0.0mg
Opioid med > 2 days/wk	No	No	No
Health service utilisation			
General practioner	7	6	8
Medical specialist	0	1	1
Other health professional	3	3	4
ED presentations	0	0	0
Inpatient admissions	0	0	0
Diagnostic tests	0	1	1

Patient Global Rating of Change Scale



- Was able to travel to India to see family and managed the flight and travel without significant pain flare-ups by pacing her activity
- Still practices her meditation using the ‘Smiling Mind’ app
- Practices her stretches and strengthening exercises 3 times per week which has helps her to return to cutting vegetables
- Feeling more confident to return to work to help the family’s finances

Case Study 4
Fibromyalgia

- 52 year old female with 10 year history of fibromyalgia and carpal tunnel syndrome referred to WH Pain Clinic by GP
- month history of paraesthesia in both hands, worse at night
- 10 year history of chronic low back pain
- Difficulties with sleep, pain and fatigue stopping her from doing her regular walking on her treadmill after stopping following an injury to her foot.
- Accepted a place on the Virtual Move Do Live pain program and given a Move Do Live pain program manual

Before Move Do Live

Western Health

Questionnaire completion reason:	Episode Referral Questionnaire
Questionnaire completion date:	06/04/2022
Pathway:	
Current work status:	Not employed due to pain
Work time missed due to pain:	-
Pain affected productivity while working:	-
Overall work impairment due to pain:	-

Health service utilisation

in the past 3 months for pain condition:

General practitioner	Medical specialist	Other health professionals	ED presentations	Inpatient admissions	Diagnostic tests
6 times	0 times	1 times	0 times	0 times	1 tests

Medication

Opioid replacement/substitution program?	YES	☑ Opioids	☐ Antidepressants
Daily oral morphine equivalent (mg):	20.0 mg	☑ Paracetamol	☐ Anticonvulsants
Opioid medication > 2 days per week:	YES	☐ NSAIDs	☐ Sedatives
		☐ Medicinal Cannabinoids	

Brief Pain Inventory

Main pain site:	Low back		
Pain severity:	7.8 /10 (0 missing) Severe pain		
Pain interference:	5.9 /10 (0 missing)		
Least pain:	6	Average pain:	7
Worst pain:	10	Pain now:	8

Before Move Do Live

Western Health

DASS 21		
Depression:	1.0 (0 missing), Full scale score 2 / 42	Normal
Anxiety:	1.0 (0 missing), Full scale score 2 / 42	Normal
Stress:	4.0 (0 missing), Full scale score 8 / 42	Normal
Total score:	6.0 (0 missing), Full scale score 12 / 126	
Pain Self-Efficacy Questionnaire		
Total score:	18.0 / 60 (0 missing)	Severe
Pain Catasrophising Scale		
Total score:	8.0 / 52 (0 missing)	Mild
Rumination:	3.0 / 16 (0 missing)	
Magnification:	0.0 / 12 (0 missing)	
Helplessness:	5.0 / 24 (0 missing)	

Before Move Do Live

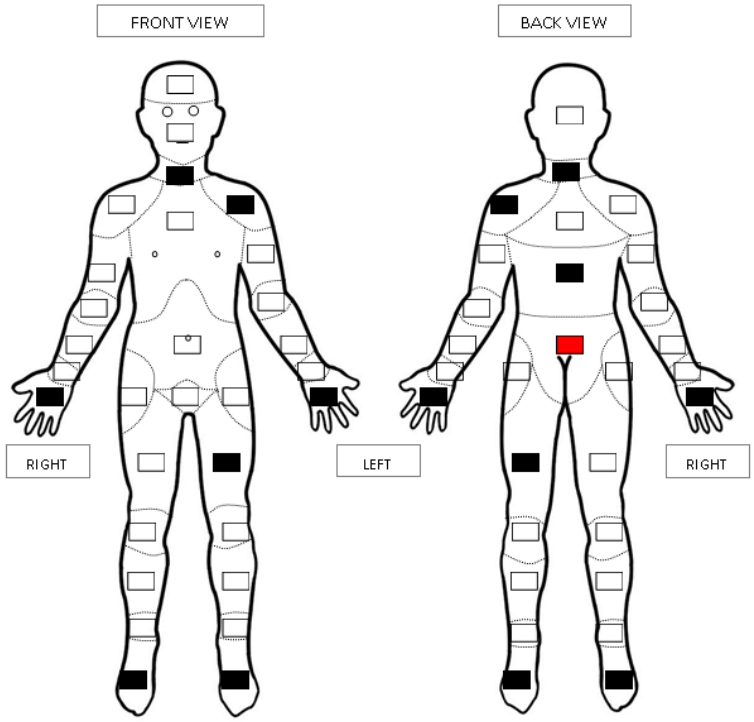
Western Health

Medication use			
Are you taking any medications?			
☐No ☑Yes			
Medication name (as on the label)	Medicine strength (as on the label)	How many do you take per day?	How many days per week do you take this medication?
Tramadol SR	50mg	1-2	7
Panadol osteo	665mg	6	7
Rovustatin	5mg	1	7
Perindopril	2 mg	1	7
Mebeverine	135 mg	1-2	2-3
Remifemin	2.5 mg	1/2	7
Sumatriptan	50mg	2	1-3
Fexofenadine	180 mg	1	5 sometimes
Frusemide	20mg	1	0-1
Glucosamine sulfate	750mg	1	7
Donnatab	19.4/6.5/103.7	2	1-3
Salbutamol	100 micrograms	1-2 puffs	7
Symbicort rapihaler	200/6	1-2 puffs	7
Magnesium and turmeric	300/100 mg combo	1	7
Pantoprazole	40mg	2	1-3
Hyloforte eye drops	2mg	1	1-5
Betamethasone ointment	0.5 mg	1 tube	1-5
Voltaten osteo gel	23.2mg	1-3	3-7
Mometasone lotion	0.1%	1	1-3
Did the patient report medication?		☑Yes	☐No
Possible differences in patient-reported medications?		☐Yes	☑No
Tick all drug groups being taken:			
☑Opioids ☑Paracetamol ☐NSAIDs ☐Medicinal Cannabinoids			
☐Antidepressants ☐Anticonvulsants ☐Sedatives			
Daily morphine equivalent: 20 mg			
Opioid medication >2 days/week		☑Yes	☐No
Opioid replacement/substitution program?		☑Yes	☐No

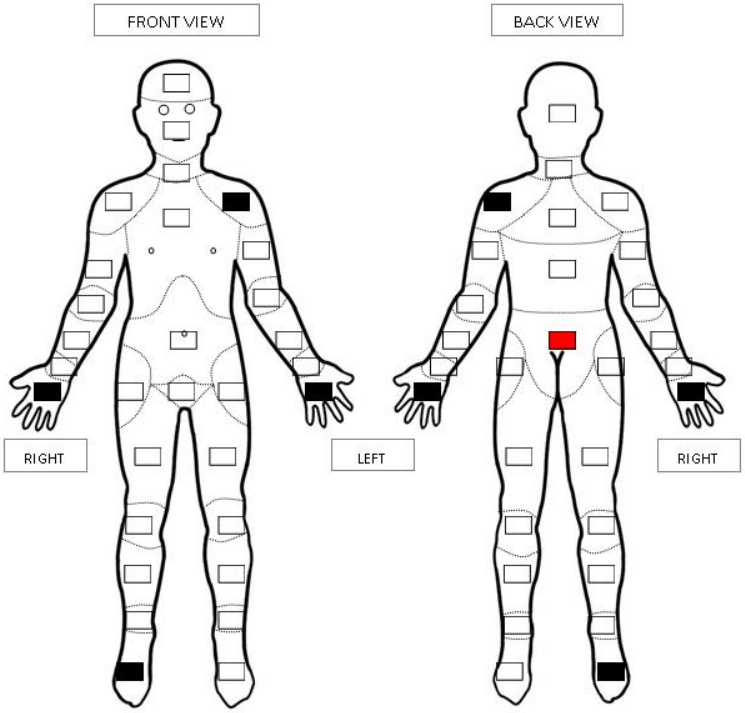
Case Study 4
Fibromyalgia

Western Health

Before



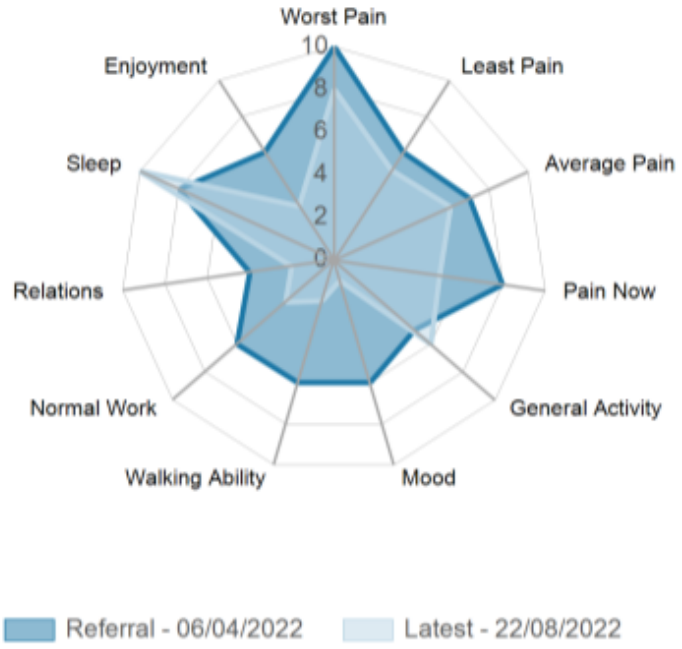
After

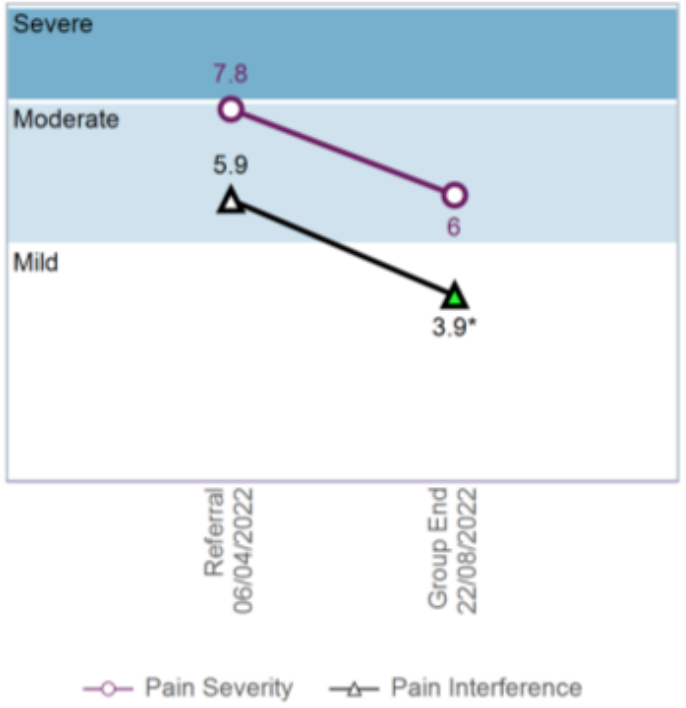


Case Study 4
Fibromyalgia

Western Health

PAIN SEVERITY AND INTERFERENCE





Case Study 4
Fibromyalgia

Western Health

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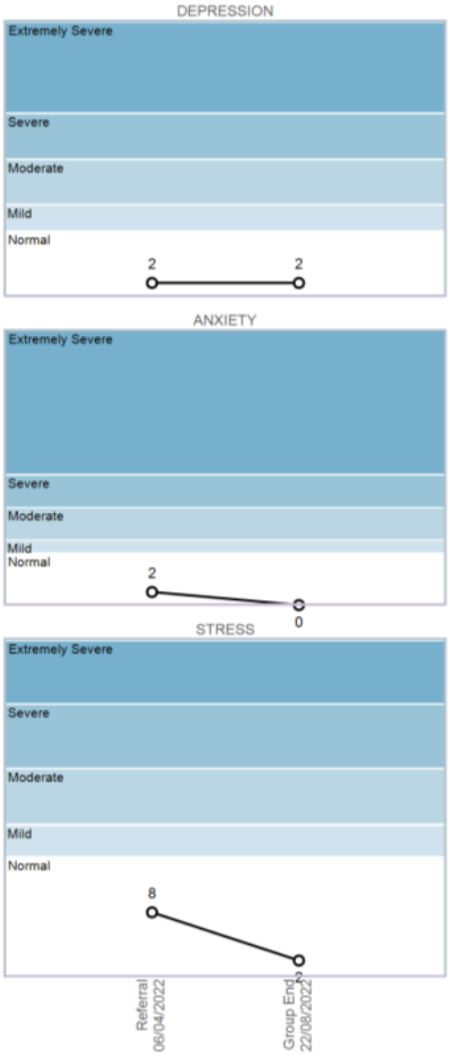
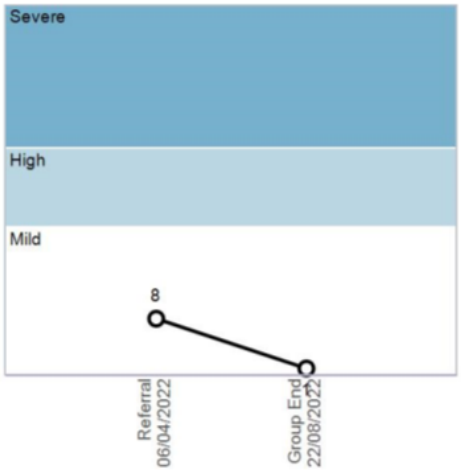
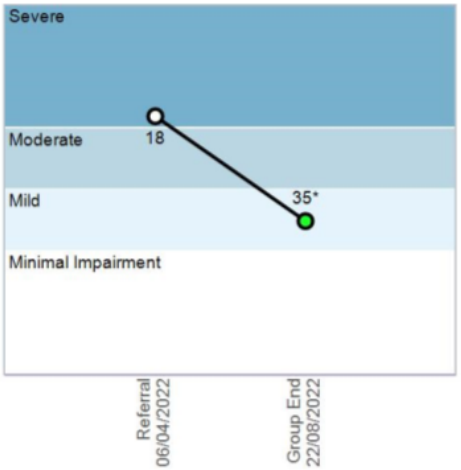


PAIN CATASTROPHISING



PAIN SELF-EFFICACY



Case Study 4
Fibromyalgia

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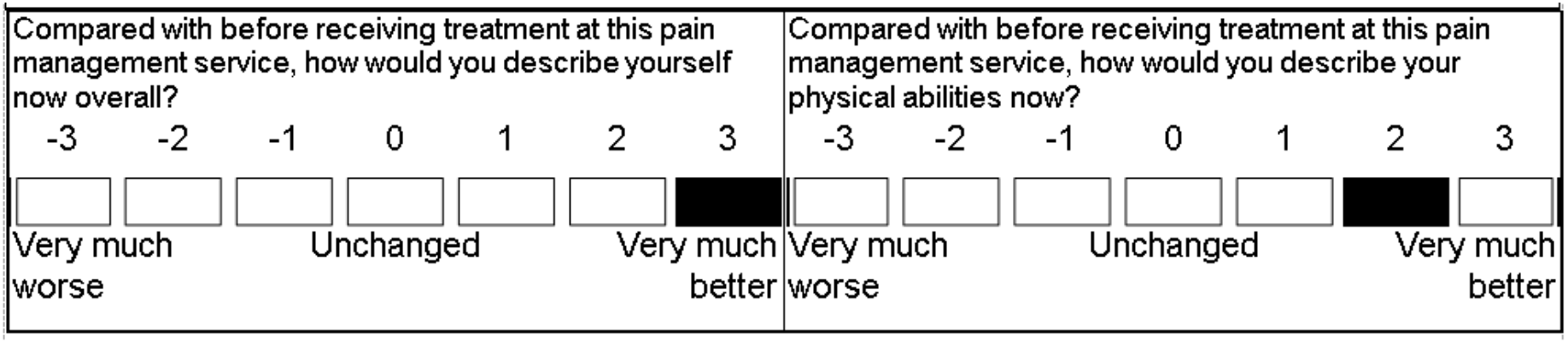
Medication		
Major drug groups	2	4
Daily morphine equiv	20.0mg	20.0mg
Opioid med > 2 days/wk	YES	YES
Health service utilisation		
General practioner	6	6
Medical specialist	0	0
Other health professional	1	2
ED presentations	0	0
Inpatient admissions	0	0
Diagnostic tests	1	0

Case Study 4
Fibromyalgia



- On discharge was longer takes Topamax and Panadol Osteo
- GP referred to WH orthopaedic waiting list for further investigation of CTS but symptoms are resolving
- Returned to walking on the treadmill.
- Practices meditation
- Uses her personalised Flare Up First Aid Plan during times of increased pain
- Mother has had to move into her house due to frailty and reduced mobility but client feels confident she can take care of her

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Advance Access publication 27 March 2008

doi:10.1093/rheumatology/ken021

Multidisciplinary treatment for chronic pain: a systematic review of interventions and outcomes

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Objectives. To provide an overview of the effectiveness of multidisciplinary treatments of chronic pain and investigate about their differential effects on outcome in various pain conditions and of different multidisciplinary treatments, settings or durations.
Methods. In this article, the authors performed a systematic review of all currently available randomized controlled trials (RCTs) fulfilling the inclusion criteria, by using a recently developed rating system aimed to assess the strength of evidence with regard to the methodological quality of the trials.
Results. Compared with other non-disciplinary treatments, moderate evidence of higher effectiveness for multidisciplinary interventions was shown. In contrast to no treatment or standard medical treatment, strong evidence was detected in favour of multidisciplinary treatments. The evidence that comprehensive inpatient programmes were more beneficial that outpatient programmes was moderate. Fibromyalgia and chronic back pain patients tended to profit more substantially than patients with diverse origins or chronic pain diagnoses. No evidence was found that treatment variables, such as duration or programme components, were influential for the success of the intervention.
Conclusion. A standard of multidisciplinary programmes should be internationally established to guarantee generally good outcomes in the treatment of chronic pain. Our results highlight the lack of quality of design, execution or reporting of many of the RCTs included in this article. Future studies should more specifically focus on differential effects of treatment components and patient variables, allowing the identification of subgroups, which most probably would profit from multidisciplinary pain programmes.

Key words: Back pain, Chronic pain, Fibromyalgia, Multidisciplinary treatment, Systematic review.

Western Health

SYSTEMATIC REVIEW

Multidisciplinary rehabilitation treatments for patients with fibromyalgia: a systematic review

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ABSTRACT

INTRODUCTION: Fibromyalgia (FM) is a pathology that causes physical, psychological, and social problems. For this reason, it requires treatment that involves all of these elements. The main of study is to examine multidisciplinary rehabilitation treatment (MRT) in fibromyalgia and to identify healthcare approaches developing effective MRT tools for the treatment of FM.
EVIDENCE ACQUISITION: In this systematic review, we searched the following databases: CINAHL, PubMed, Scopus, Cuidatge, Cuiden, ENFISPO, IBEC and IME.
EVIDENCE SYNTHESIS: Of 356 articles found we selected 13 to analyze and summarize. We created 4 different categories: 1) multidisciplinary rehabilitation treatment focusing on health education and cognitive behavioral therapy (CBT); 2) multidisciplinary rehabilitation treatment that includes dietetics; 3) multidisciplinary rehabilitation treatment adapted to the patients' characteristics; 4) multidisciplinary rehabilitation treatment based on physical exercise.
CONCLUSIONS: This review identifies the most effective treatments that may be usefully applied in many different rehabilitation contexts. These include all treatments that incorporated an education (ED) program to patients and an exercise program complete with aerobic exercise (AE), stretching (SE), relaxation (RE), strengthening (TE), endurance (EN), and which includes the entire body and biofeedback. Furthermore, many approaches also include cognitive behavioral therapy (CBT) for self-management such as occupational therapy, moderation, acceptance, commitment, motivation to change and forgiveness.

(*Cite this article as:* Llàdser AN, Montesó-Curto P, López C, Rosselló L, Lear S, Toussaint L, *et al*. Multidisciplinary rehabilitation treatments for patients with fibromyalgia: a systematic review. Eur J Phys Rehabil Med 2022;58:76-84. DOI: 10.23736/S1973-9087.21.06432-7)

KEY WORDS: Cognitive behavioral therapy; Combined modality therapy; Dietetics; Exercise therapy; Rehabilitation.

Western Health

TABLE III.—*Effects of the Rehabilitation Interventions on Fibromyalgia Impact Questionnaire (FIQ) outcomes.*

Study	Pre-intervention			Post-intervention				
	Control group	Intervention group 1	Inter-vention group 2	Control group	Intervention group 1	Intervention group 2	Post-pre control	Post-pre inter-vention
Wahner-Roedler [33] α	65.0	62.0		52.8	53.8		-12.2	-8.2
Casanueva[34] ǂ	64.01	68.52		-	55.79			-12.73
Castel[36] β	66±13.0	65.1±13.3		61.9±13.4	45.3±22.4*		-4.1	-19.8
Hamnes[42] t	59.7 (23.9-92.5)	59.0 (16.1-89.6)	55.4±2.3	61.0 (23.2-93.2)	55.9 (7.0-90.5)	56.2±2.9	+13	-3.1
Kas[35] ǂ	62.9	63.03		38.31	27.57		-22.66	-27.56
Van Eijk-Hustings *et al.* (2013) β	66.3±1.8	64.5±1.4		51.2±2.3*	50.9±2.0*		-15.1	-13.6
Vincent[31] ǂ		53.3			28.71*			-24.59
Gonzalez[42]		Moderate-severe			Moderate-light			
Castel[40] β	66.6±17.4	64.6±16.0		65.9±16.1	47.7±20.2*		-0.7	-16.9
Saral[37] β	65.5±13.2	71.6±14.2	67.7±12.0	65.5±11.5	53.9±9.3*	54.4±14.2*	-1.1	-17.7
Michalsen[38] β	68.0±8.9	54.3±15.0		63.9±20.7	47.7±19.3		-4.1	-6.6
Martinez[41] Φ	64.09 (13.61)	60.71 (11.83)		64.46 (15.23)	50.47 (18.43)		+0.37	-10.24
Salvat[39] t	69.5 (55.0-80.3)	68.0 (53.0-76.0)		-	-			-14*

*Statistically significant difference between the pre-intervention group and the post-intervention group.
α Percentage of the difference between averages of the pre-post intervention of each group; ǂ average of the group's total FIQ; Φ average (standard deviation); β average + standard deviation; t average (min-max value).

Rheumatol Int (2016) 36:1379–1389
DOI 10.1007/s00296-016-3473-8

Rheumatology INTERNATIONAL

CLINICAL TRIALS

The effects of long- and short-term interdisciplinary treatment approaches in women with fibromyalgia: a randomized controlled trial

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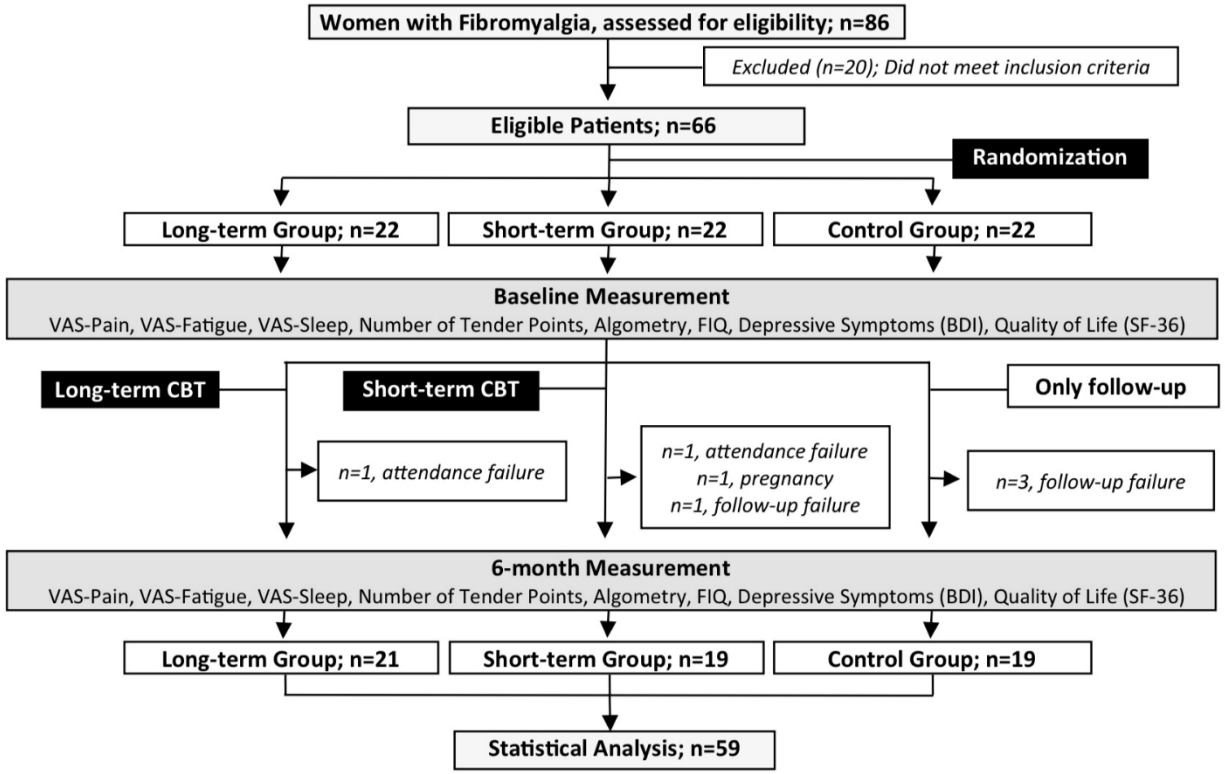

Fig. 1 Participant flow and study profile

Table 1 Homogeneity of demographic and outcome variables between three groups at baseline

	Long-term ($n = 21$)		Short-term ($n = 19$)		Control ($n = 19$)		$P^{\dagger}$
	n	%	*n*	%	*n*	%	
Marital status							
Single	5	23.8	3	15.8	4	21.1	0.820
Married	16	76.2	16	84.2	15	78.9	
Education level							
Below high school	12	57.1	8	42.1	14	73.7	0.148
High school and above	9	42.9	11	57.9	5	26.3	
Job							
Housewife or tired	16	76.2	13	68.4	16	84.2	0.526
Active employees	5	23.8	6	31.6	3	15.8	
	Mean ± SD	Min–Max	Mean ± SD	Min–Max	Mean ± SD	Min–Max	$P^{\dagger}$
Age (years)	38.3 ± 9.8	25–59	43.2 ± 9.2	27–58	43.7 ± 1.1	26–60	0.168
BMI (kg/m^2)	24.4 ± 4.1	17.4–35.6	23.8 ± 3.5	19.3–32.0	24.7 ± 3.4	17.0–31.1	0.503
Duration of symptoms (months)	68.6 ± 54.0	12–180	112.9–81.8	24–360	88.4 ± 61.7	24–240	0.119
VAS-pain (0–10)	8.2 ± 0.9	7–10	7.6 ± 0.8	6–9	7.5 ± 0.9	6–9	0.053
VAS-fatigue (0–10)	8.9 ± 1.7	5–10	8.4 ± 1.8	5–10	8.1 ± 2.5	0–10	0.34
VAS-sleep (0–10)	7.2 ± 2.8	0–10	5.2 ± 2.8	0–8	5.8 ± 2.7	0–9	0.022
Tender points (*n*)	16.1 ± 2.0	12–18	15.4 ± 1.8	12–18	15.6 ± 2.4	12–18	0.550
Algometry (kg/cm^2)	2.9 ± 0.6	1.4–4.2	2.9 ± 0.5	1.7–3.6	2.9 ± 0.5	1.9–3.9	0.973
FIQ (0–100)	71.6 ± 14.2	37.9–88.1	67.7 ± 12.0	47.0–84.5	65.5 ± 13.2	45.9–88.4	0.291
BDI (0–63)	23.4 ± 11.0	6.0–41.0	20.7 ± 6.6	7.0–34.0	21.4 ± 10.4	7.0–46.0	0.706
SF-36, PCS (0–100)	32.8 ± 7.9	20.8–52.2	36.5 ± 8.7	24.8–54.0	36.0 ± 7.2	24.3–50.8	0.360
SF-36, MCS (0–100)	30.4 ± 11.7	13.8–53.4	33.2 ± 8.9	20.3–52.6	36.1 ± 9.8	18.3–50.1	0.188

BMI body mass index, *VAS* visual analog scale, *FIQ* Fibromyalgia Impact Questionnaire, *BDI* Beck Depression Inventory, *SF-36* Short Form-36, *PCS* physical component summary, *MCS* mental component summary, *SD* standard deviation, *Min* minimum, *Max* maximum

† The Kruskal–Wallis test, $\alpha = 0.05$

Table 2 Changes in the all outcome measures by intervention groups from the baseline to the 6 month

	Mean (SD)		Within-group†	Between-groups comparisons		
	Baseline	6-Month	Changes (%)	$p^{¥}$	Pairwise	$P^{¥}$
VAS-pain (0–10)						
LG	8.2 ± 0.9	5.1 ± 2.4	−38.3***	<0.001	LG vs CG	<0.001
SG	7.6 ± 0.8	5.8 ± 1.0	−22.8***		SG vs CG	<0.001
CG	7.5 ± 0.9	7.6 ± 1.4	+1.5		LG vs SG	0.047
VAS-fatigue (0–10)						
LG	8.9 ± 1.7	6.0 ± 3.0	−29.8**	0.048	LG vs CG	0.014
SG	8.4 ± 1.8	6.8 ± 2.2	−15.7*		SG vs CG	0.234
CG	8.1 ± 2.5	8.0 ± 1.5	+1.8		LG vs SG	0.236
VAS-sleep (0–10)						
LG	7.2 ± 2.8	3.0 ± 2.8	−45.0**	0.055	LG vs CG	N/A
SG	5.2 ± 2.8	3.1 ± 2.5	+33.7		SG vs CG	N/A
CG	5.8 ± 2.7	4.9 ± 3.0	+52.3		LG vs SG	N/A
Tender points (number)						
LG	16.1 ± 2.0	10.6 ± 4.4	−34.8***	0.002	LG vs CG	<0.001
SG	15.4 ± 1.8	11.4 ± 3.5	−24.5**		SG vs CG	0.014
CG	15.6 ± 2.4	14.4 ± 3.9	−5.8		LG vs SG	0.247
Algometry (kg/cm^2)						
LG	2.9 ± 0.6	3.8 ± 0.7	+34.2**	0.012	LG vs CG	0.029
SG	2.9 ± 0.5	3.8 ± 0.5	+36.3***		SG vs CG	0.002
CG	2.9 ± 0.5	3.2 ± 0.6	+16.6		LG vs SG	0.915
FIQ (0–100)						
LG	71.6 ± 14.2	53.9 ± 19.3	−22.1**	0.017	LG vs CG	0.011
SG	67.7 ± 12.0	54.5 ± 14.2	−18.9**		SG vs CG	0.015
CG	65.5 ± 13.2	65.5 ± 11.5	+3.2		LG vs SG	0.789
BDI (0–63)						
LG	23.4 ± 11.0	16.6 ± 9.6	−12.3*	0.696	LG vs CG	N/A
SG	20.7 ± 6.6	15.0 ± 10.2	−24.9*		SG vs CG	N/A
CG	21.4 ± 10.4	18.7 ± 9.5	+0.2		LG vs SG	N/A
SF-36-PCS (0–100)						
LG	32.8 ± 7.9	39.9 ± 7.5	+27.3**	0.036	LG vs CG	0.007
SG	36.5 ± 8.7	39.6 ± 8.1	+13.4		SG vs CG	0.212
CG	36.0 ± 7.2	34.3 ± 8.1	−2.2		LG vs SG	0.294
SF-36-MCS (0–100)						
LG	30.4 ± 11.7	40.7 ± 12.3	+60.0*	0.229	LG vs CG	N/A
SG	33.2 ± 8.9	40.2 ± 10.0	+28.7		SG vs CG	N/A
CG	36.1 ± 9.8	37.6 ± 10.0	+12.7		LG vs SG	N/A

LG long-term group, *SG* short-term group, *CG* control group, *SD* standard deviation, *VAS* visual analog scale, *FIQ* Fibromyalgia Impact Questionnaire, *BDI* Beck Depression Inventory, *SF-36* Short Form-36, *PCS* physical component summary, *MCS* mental component summary, *N/A* not applicable

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

† Within-group comparison by Wilcoxon signed-rank test

¥ Between-groups comparisons by Kruskal–Wallis test

₹ Pair-wise comparisons using Mann–Whitney *U* tests with Bonferroni correction, significance level: $p < 0.016$

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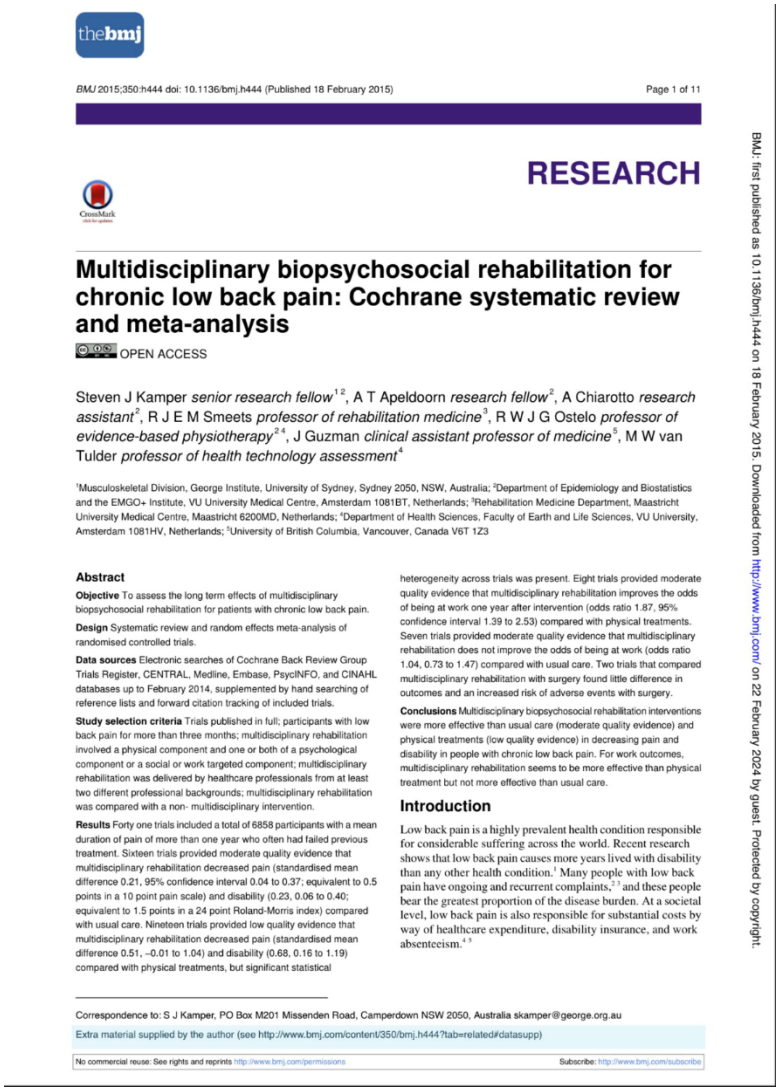

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BMJ 2015;350:h444 doi: 10.1136/bmj.h444 (Published 18 February 2015) Page 1 of 11

RESEARCH

Multidisciplinary biopsychosocial rehabilitation for chronic low back pain: Cochrane systematic review and meta-analysis

OPEN ACCESS

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Abstract

Objective To assess the long term effects of multidisciplinary biopsychosocial rehabilitation for patients with chronic low back pain.

Design Systematic review and random effects meta-analysis of randomised controlled trials.

Data sources Electronic searches of Cochrane Back Review Group Trials Register, CENTRAL, Medline, Embase, PsycINFO, and CINAHL databases up to February 2014, supplemented by hand searching of reference lists and forward citation tracking of included trials.

Study selection criteria Trials published in full; participants with low back pain for more than three months; multidisciplinary rehabilitation involved a physical component and one or both of a psychological component or a social or work targeted component; multidisciplinary rehabilitation was delivered by healthcare professionals from at least two different professional backgrounds; multidisciplinary rehabilitation was compared with a non- multidisciplinary intervention.

Results Forty one trials included a total of 6858 participants with a mean duration of pain of more than one year who often had failed previous treatment. Sixteen trials provided moderate quality evidence that multidisciplinary rehabilitation decreased pain (standardised mean difference 0.21, 95% confidence interval 0.04 to 0.37; equivalent to 0.5 points in a 10 point pain scale) and disability (0.23, 0.06 to 0.40; equivalent to 1.5 points in a 24 point Roland-Morris index) compared with usual care. Nineteen trials provided low quality evidence that multidisciplinary rehabilitation decreased pain (standardised mean difference 0.51, −0.01 to 1.04) and disability (0.68, 0.16 to 1.19) compared with physical treatments, but significant statistical heterogeneity across trials was present. Eight trials provided moderate quality evidence that multidisciplinary rehabilitation improves the odds of being at work one year after intervention (odds ratio 1.87, 95% confidence interval 1.39 to 2.53) compared with physical treatments. Seven trials provided moderate quality evidence that multidisciplinary rehabilitation does not improve the odds of being at work (odds ratio 1.04, 0.73 to 1.47) compared with usual care. Two trials that compared multidisciplinary rehabilitation with surgery found little difference in outcomes and an increased risk of adverse events with surgery.

Conclusions Multidisciplinary biopsychosocial rehabilitation interventions were more effective than usual care (moderate quality evidence) and physical treatments (low quality evidence) in decreasing pain and disability in people with chronic low back pain. For work outcomes, multidisciplinary rehabilitation seems to be more effective than physical treatment but not more effective than usual care.

Introduction

Low back pain is a highly prevalent health condition responsible for considerable suffering across the world. Recent research shows that low back pain causes more years lived with disability than any other health condition.[1] Many people with low back pain have ongoing and recurrent complaints,[2 3] and these people bear the greatest proportion of the disease burden. At a societal level, low back pain is also responsible for substantial costs by way of healthcare expenditure, disability insurance, and work absenteeism.[4 5]

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Extra material supplied by the author (see http://www.bmj.com/content/350/bmj.h444?tab=related#datasupp)

‘Referral of a a patient with chronic low back pain for multidisciplinary rehabilitation as opposed to usual care or a physical treatment is likely to confer a benefit in terms of reduced pain and disability that endures beyond one year’

Learning Outcome 4

Participants will be able to identify patients who would benefit from deprescribing of pain medication and know when to refer to the multidisciplinary team at Western Health and other health services for support.

Western Health

Opioid analgesia for acute low back pain and neck pain (the OPAL trial): a randomised placebo-controlled trial

*Caitlin M P Jones, Richard O Day, Bart W Koes, Jane Latimer, Chris G Maher, Andrew J McLachlan, Laurent Billot, Sana Shan, Chung-Wei Christine Lin, on behalf of the OPAL Investigators and Coordinators**

Summary

Background Opioid analgesics are commonly used for acute low back pain and neck pain, but supporting efficacy data are scarce. We aimed to investigate the efficacy and safety of a judicious short course of an opioid analgesic for acute low back pain and neck pain.

Methods OPAL was a triple-blinded, placebo-controlled randomised trial that recruited adults (aged ≥18 years) presenting to one of 157 primary care or emergency department sites in Sydney, NSW, Australia, with 12 weeks or less of low back or neck pain (or both) of at least moderate pain severity. Participants were randomly assigned (1:1) using statistician-generated randomly permuted blocks to guideline-recommended care plus an opioid (oxycodone–naloxone, up to 20 mg oxycodone per day orally) or guideline-recommended care and an identical placebo, for up to 6 weeks. The primary outcome was pain severity at 6 weeks measured with the pain severity subscale of the Brief Pain Inventory (10-point scale), analysed in all eligible participants who provided at least one post-randomisation pain score, by use of a repeated measures linear mixed model. Safety was analysed in all randomly assigned eligible participants. The trial was registered with the Australian New Zealand Clinical Trials Registry (ACTRN12615000775516).

Findings Between Feb 29, 2016, and March 10, 2022, 347 participants were recruited (174 to the opioid group and 173 to the placebo group). 170 (49%) of 346 participants were female and 176 (51%) were male. 33 (19%) of 174 participants in the opioid group and 25 (15%) of 172 in the placebo group had discontinued from the trial by week 6, due to loss to follow-up and participant withdrawals. 151 participants in the opioid group and 159 in the placebo group were included in the primary analysis. Mean pain score at 6 weeks was 2·78 (SE 0·20) in the opioid group versus 2·25 (0·19) in the placebo group (adjusted mean difference 0·53, 95% CI −0·00 to 1·07, p=0·051). 61 (35%) of 174 participants in the opioid group reported at least one adverse event versus 51 (30%) of 172 in the placebo group (p=0·30), but more people in the opioid group reported opioid-related adverse events (eg, 13 [7·5%] of 174 participants in the opioid group reported constipation *vs* six [3·5%] of 173 in the placebo group).

Interpretation Opioids should not be recommended for acute non-specific low back pain or neck pain given that we found no significant difference in pain severity compared with placebo. This finding calls for a change in the frequent use of opioids for these conditions.

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See Online for appendix

Introduction

Low back pain and neck pain are very prevalent,[1] with low back pain being the largest contributor to years lived with disability globally, and neck pain being the fourth largest.[2,3] Low back pain and neck pain also impose the highest direct costs of any medical condition.[4] The economic burden is even greater when the indirect costs are also considered.[5]

Clinical guidelines recommend opioid analgesics for people with acute low back or neck pain only when other pharmacological treatments are contraindicated or have not worked.[6] Despite these guidelines, as high as two-thirds of people in Australia receive an opioid as first-line treatment when presenting for care with low back pain and neck pain.[7] In the USA, opioid prescription rates have decreased in the previous decade, but were still dispensed at a rate of 43·3 prescriptions per 100 people in 2020.[8] The use of opioids for the management of acute low back pain and neck pain is not supported by direct and robust evidence.[9] A further concern regarding opioid use is the risks of adverse events, which can be serious (eg, dependency, misuse, and overdose) and could lead to increased mortality.[10,11] There have been recent calls to reduce the use of opioids, including guidelines from the US Centers for Disease Control and Prevention, the National Institute for Health and Care Excellence in the UK, the Stanford–*Lancet* Commission, and the Australian Commission on Safety and Quality in Healthcare.[11–14]

The aim of this research was to investigate the efficacy and safety of a judicious short course of an opioid analgesic for the management of acute non-specific low back pain and neck pain.

Western Health

Research

JAMA | Original Investigation

Effect of Opioid vs Nonopioid Medications on Pain-Related Function in Patients With Chronic Back Pain or Hip or Knee Osteoarthritis Pain

The SPACE Randomized Clinical Trial

Erin E. Krebs, MD, MPH; Amy Gravely, MA; Sean Nugent, BA; Agnes C. Jensen, MPH; Beth DeRonne, PharmD; Elizabeth S. Goldsmith, MD, MS; Kurt Kroenke, MD; Matthew J. Bair; Siamak Noorbaloochi, PhD

IMPORTANCE Limited evidence is available regarding long-term outcomes of opioids compared with nonopioid medications for chronic pain.

OBJECTIVE To compare opioid vs nonopioid medications over 12 months on pain-related function, pain intensity, and adverse effects.

DESIGN, SETTING, AND PARTICIPANTS Pragmatic, 12-month, randomized trial with masked outcome assessment. Patients were recruited from Veterans Affairs primary care clinics from June 2013 through December 2015; follow-up was completed December 2016. Eligible patients had moderate to severe chronic back pain or hip or knee osteoarthritis pain despite analgesic use. Of 265 patients enrolled, 25 withdrew prior to randomization and 240 were randomized.

INTERVENTIONS Both interventions (opioid and nonopioid medication therapy) followed a treat-to-target strategy aiming for improved pain and function. Each intervention had its own prescribing strategy that included multiple medication options in 3 steps. In the opioid group, the first step was immediate-release morphine, oxycodone, or hydrocodone/acetaminophen. For the nonopioid group, the first step was acetaminophen (paracetamol) or a nonsteroidal anti-inflammatory drug. Medications were changed, added, or adjusted within the assigned treatment group according to individual patient response.

MAIN OUTCOMES AND MEASURES The primary outcome was pain-related function (Brief Pain Inventory [BPI] interference scale) over 12 months and the main secondary outcome was pain intensity (BPI severity scale). For both BPI scales (range, 0-10; higher scores = worse function or pain intensity), a 1-point improvement was clinically important. The primary adverse outcome was medication-related symptoms (patient-reported checklist; range, 0-19).

RESULTS Among 240 randomized patients (mean age, 58.3 years; women, 32 [13.0%]), 234 (97.5%) completed the trial. Groups did not significantly differ on pain-related function over 12 months (overall $P = .58$); mean 12-month BPI interference was 3.4 for the opioid group and 3.3 for the nonopioid group (difference, 0.1 [95% CI, −0.5 to 0.7]). Pain intensity was significantly better in the nonopioid group over 12 months (overall $P = .03$); mean 12-month BPI severity was 4.0 for the opioid group and 3.5 for the nonopioid group (difference, 0.5 [95% CI, 0.0 to 1.0]). Adverse medication-related symptoms were significantly more common in the opioid group over 12 months (overall $P = .03$); mean medication-related symptoms at 12 months were 1.8 in the opioid group and 0.9 in the nonopioid group (difference, 0.9 [95% CI, 0.3 to 1.5]).

CONCLUSIONS AND RELEVANCE Treatment with opioids was not superior to treatment with nonopioid medications for improving pain-related function over 12 months. Results do not support initiation of opioid therapy for moderate to severe chronic back pain or hip or knee osteoarthritis pain.

TRIAL REGISTRATION clinicaltrials.gov Identifier: NCT01583985

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Supplemental content

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Guideline summary

Clinical practice guideline for deprescribing opioid analgesics: summary of recommendations

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Abstract

Introduction: Long term opioids are commonly prescribed to manage pain. Dose reduction or discontinuation (deprescribing) can be challenging, even when the potential harms of continuation outweigh the perceived benefits. The *Evidence-based clinical practice guideline for deprescribing opioid analgesics* was developed using robust guideline development processes and Grading of Recommendations, Assessment, Development and Evaluation (GRADE) methodology, and contains deprescribing recommendations for adults prescribed opioids for pain.

Main recommendations: Eleven recommendations provide advice about when, how and for whom opioid deprescribing should be considered, while noting the need to consider each person's goals, values and preferences. The recommendations aim to achieve:

- implementation of a deprescribing plan at the point of opioid initiation;
- initiation of opioid deprescribing for persons with chronic non-cancer or chronic cancer-survivor pain if there is a lack of overall and clinically meaningful improvement in function, quality of life or pain, a lack of progress towards meeting agreed therapeutic goals, or the person is experiencing serious or intolerable opioid-related adverse effects;
- gradual and individualised deprescribing, with regular monitoring and review;
- consideration of opioid deprescribing for individuals at high risk of opioid-related harms;
- avoidance of opioid deprescribing for persons nearing the end of life unless clinically indicated;
- avoidance of opioid deprescribing for persons with a severe opioid use disorder, with the initiation of evidence-based care, such as medication-assisted treatment of opioid use disorder; and
- use of evidence-based co-interventions to facilitate deprescribing, including interdisciplinary, multidisciplinary or multimodal care.

Changes in management as a result of these guidelines: To our knowledge, these are the first evidence-based guidelines for opioid deprescribing. The recommendations intend to facilitate safe and effective deprescribing to improve the quality of care for persons taking opioids for pain.

Pain and pain-related conditions are a leading cause of disability and disease burden globally,[1] with one in five adults aged 45 years and over reporting persistent, ongoing pain.[2] Opioids are commonly prescribed for the management of pain, and increases in the use of prescription opioids have been observed globally over recent decades, particularly in Organisation for Economic Co-operation and Development (OECD) countries.[3] In Australia, over 1.9 million adults initiate opioid therapies each year,[4] with the majority of prescriptions in primary care issued for maintenance therapy in chronic non-cancer pain.[5,6] Although shown to be an effective component of the management of acute pain, opioids may not provide longer term clinically important improvements in pain or function compared with placebo or non-opioid medications.[7,8] Further, opioid use presents a significant risk of harm, with about 80% of people who take opioids for three months or more experiencing adverse effects.[9]

Escalating opioid use and subsequent harm has been recognised as an international public health concern. The World Health Organization has set a global goal of reducing severe avoidable medication-related harm through its Medication Without Harm Global Patient Safety Challenge.[10] Australia's response to Medication Without Harm, published in 2020, identifies opioids as one of the four medicines of focus for the Australian context.[11] Health care professionals across a range of disciplines acknowledge that opioid deprescribing is a complex and challenging practice, with continued prescribing the default behaviour.[12] Deprescribing is the process for medication dose reduction or cessation, supervised by a health care professional, with the goal of improving outcomes and, where relevant, managing polypharmacy.[13] In Australia, existing clinical guidance focuses primarily on pain management and the prescription of analgesia.[14] However, there is a need for evidence-based guidelines that focus on the safe and effective reduction and cessation of prescribed opioids in primary care. Emerging evidence of an association between precipitous opioid tapering and overdose, suicide, and mental health crises[15,16] further highlights that additional advice on deprescribing is required.

These guidelines aim to provide evidence-based recommendations on when and how to deprescribe opioids for adults prescribed opioids for pain in primary care settings. To our knowledge, these are the first evidence-based opioid deprescribing guidelines, offering recommendations based on the most recent scientific evidence, informed by expert opinion and stakeholder and public input.

Methods

We followed the process of developing class-specific medication deprescribing guidelines,[17] and the Appraisal of Guidelines for Research and Evaluation (AGREE) II criteria.[18] We complied with the Australian 2016 National Health and Medical Research Council (NHMRC) standards for guidelines,[19] and the procedures and requirements for meeting the 2011 NHMRC standard for clinical practice guidelines.[20] The guideline methods are summarised hereafter (Supporting Information), with complete guideline methods available online.[21,22]

The Guideline Development Group was composed of 17 members who were health care professionals (general practitioners, pain specialists, addiction specialists, registered nurses,

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Abstract

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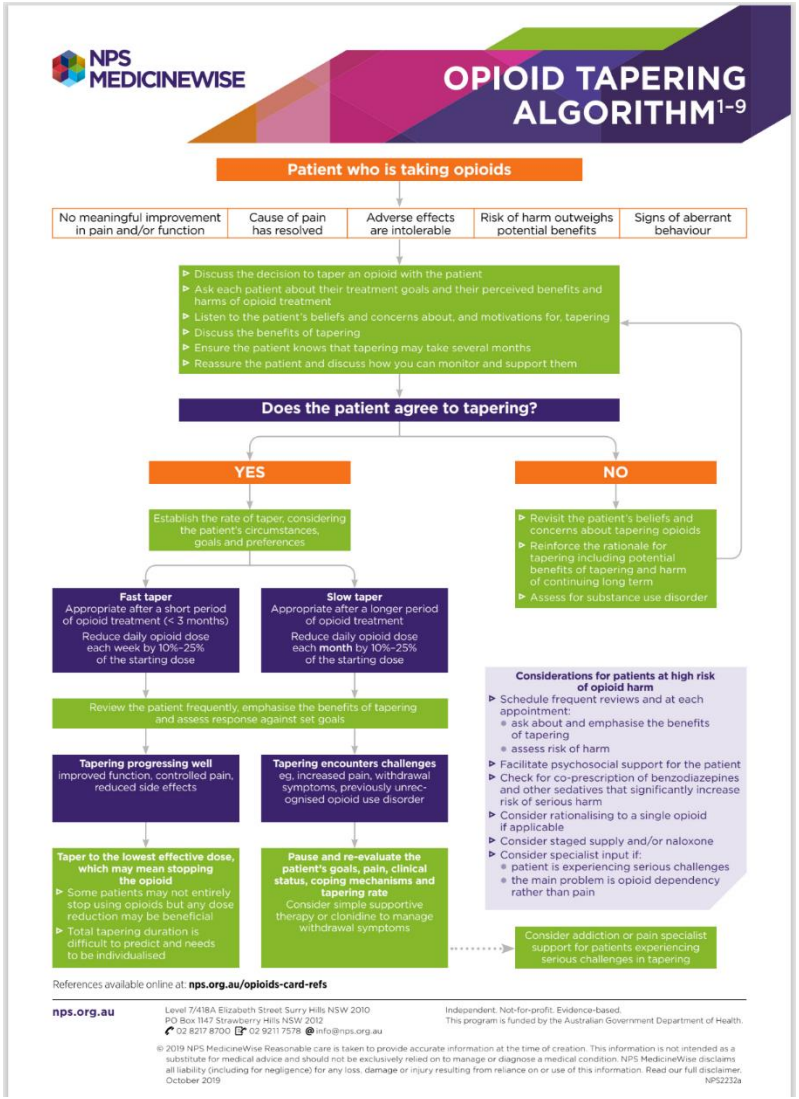

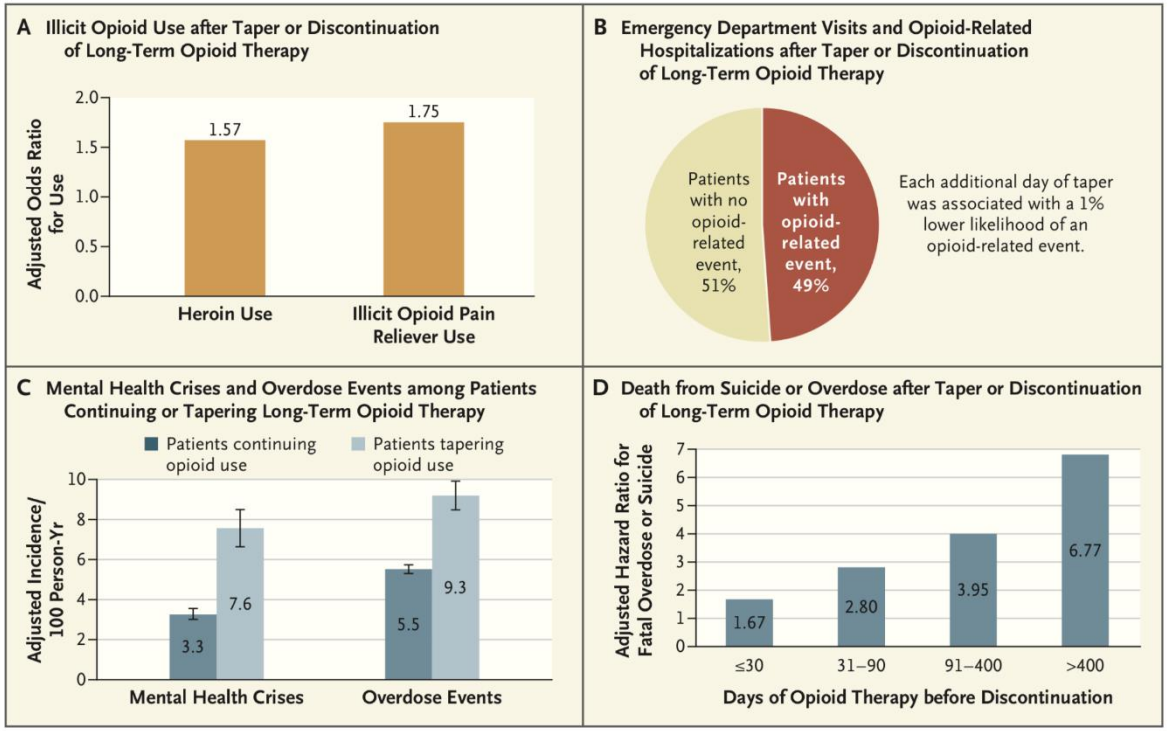

Risks Conferred by Tapering or Discontinuing Long-Term Opioid Therapy.

Among patients who have their long-term opioid therapy discontinued or tapered, there is an increased risk of illicit opioid use (Panel A), a high incidence of emergency department visits and opioid-related hospitalizations (Panel B), an increased incidence of mental health crises and overdose events (Panel C), and an increased risk of death from suicide or overdose (Panel D). I bars in Panel C indicate 95% confidence intervals. Data are from Coffin et al.,[2] Mark and Parish,[3] Agnoli et al.,[4] and Oliva et al.[5]

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Research Paper

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Patient outcomes after opioid dose reduction among patients with chronic opioid therapy

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Abstract

The net effects of prescribing initiatives that encourage dose reductions are uncertain. We examined whether rapid dose reduction after high-dose chronic opioid therapy (COT) associates with suicide, overdose, or other opioid-related adverse events. This retrospective cohort study included Oregon Medicaid recipients with high-dose COT. Claims were linked with prescription data from the prescription drug monitoring program and death data from vital statistics, 2014 to 2017. Participants were placed into 4 mutually exclusive dose trajectory groups after the high-dose COT period, and Cox proportional hazard models were used to examine the effect of dose changes on patient outcomes in the following year. Of the 14,596 high-dose COT patients, 4191 (28.7%) abruptly discontinued opioid prescriptions, 1648 (11.3%) reduced opioid dose before discontinuing, 6480 (44.4%) had a dose reduction but never discontinued, and 2277 (15.6%) had a stable or increasing dose. Discontinuation, whether abrupt (adjusted hazard ratio [aHR] 3.63; 95% confidence interval [CI] 1.42-9.25) or with dose reduction (aHR 4.47, 95% CI 1.68-11.88) significantly increased risk of suicide compared with those with stable or increasing dose. By contrast, discontinuation or dose reduction reduced the risk of overdose compared with those with a stable or increasing dose (aHR 0.36–0.62, 95% CI 0.20-0.94). Patients with an abrupt discontinuation were more likely to overdose on heroin (vs. prescription opioids) than patients in other groups ($P < 0.0001$). Our study suggests that patients on COT require careful risk assessment and supportive interventions when considering opioid discontinuation or continuation at a high dose.

Keywords: Opioids, Opioid dose reduction, Opioid discontinuation, Suicide, Overdose, Opioid adverse events

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