Supplementary Material

Since tables SIII–SVII are very extensive, the format and content has not been edited by JRM.

Table SIII Systematic reviews of multidisciplinary rehabilitation programs (MMRP) for pain management and treatment in neck pain, low back pain, whiplash-associated disorders and fibromyalgia.

Author (year)	Country	Journal	Type of review	Interventions /Definition of MMRP	Condition Treated	No of included studies (design)/ No of total sample size§	Outcomes	Main findings	Strength of the evidence	Excluded from quantitative synthesis
Marin, 2017	Canada	CDSR	MA	MMRP versus usual care or other intervention /Definition was given	Low back pain (subacute)	9 (RCTs)/ n=981	Pain Back-specific disability/functional status Work status (return-to-work, sick leave) Generic health or quality of life (QoL) Healthcare service utilization Global improvement Psychological	Multidisciplinary treatments may be better than usual care for people with LBP for a duration of six to 12 weeks. Individuals receiving multidisciplinary treatment had less pain, less disability, increased likelihood of return-to-work and fewer sick leave days at 12-month follow-up. However, when comparing multidisciplinary treatments to other treatments (e.g. brief clinical intervention including education and advice on exercise), they found that multidisciplinary treatments may be no better than other treatments. Although we examined adverse events as a secondary outcome, none of the included studies reported this outcome.	The evidence was examined separately in quantitative synthesis	N

							and cognitive function (depression, anxiety, fear avoidance, coping strategies) Adverse events			
Sutton, 2016	Canada	Spine J	SR	MMRP versus other interventions, placebo/sham interventions, waiting list or no intervention /Definition was given	Whiplash-associated disorders or neck pain and associated disorders	18 (RCTs)/ n=2502	Self-rated recovery Functional recovery Pain intensity Quality of life Psychological outcomes Adverse events	Meta-analysis was not performed because of heterogeneity of included studies. Evidence from one RCT suggests that MMRP by a physiotherapist is more effective than education alone on self-rated disability and reduced workdays lost for whiplash-associated disorders Grades I to III. One other RCT showed benefits of MMRP on neck pain intensity, headache intensity, and activities of daily living compared to education by a GP in the same patient group. However, the same RCT showed evidence in favour control on self-perceived functional recovery. For persistent whiplash-associated disorder Grade II one other RCT showed no differences between treatment groups on mechanism of whiplash, reassurance of recovery, stay active, ergonomic advice and exercise. For the management of recent NAD grades I to II and III three RCTs provided equivalent outcomes between MMRP and control groups. Two other RCTs showed equivalent outcomes between MMRP and control groups for the management of persistent NAD grades I to II. For the management of all NAD grades I and II, irrespectively of duration three RCTs provided evidence in favor MMRP for almost all examined outcomes, while the rest one RCT showed equivalent outcomes between MMRP and control groups.	Limited evidence	Y
O'Keeffe, 2016	Ireland	J Pain	MA	Physical versus physical plus	Chronic spinal	24 (RCTs)/	Pain	Use of random effects synthesis for pooled effect estimates. A statistically significant	The evidence was examined	**N**

				behavioral/ psychologically informed/ Definition was not given	pain	n=3198	Disability	difference was found for pain between groups (favoring the combined group) at short-term (5 RCTs) and at long-term follow-up (15 RCTs). No statistically significant difference was found for pain between physical and combined interventions at medium-term follow-up (15 RCTs). Five RCTs provided low evidence for disability in favor physical plus behavioral/psychologically informed treatments at short-term as well as at long-term follow-up (13 RCTs). No statistically significant difference was found for disability between physical and combined interventions at medium-term follow-up (13 RCTs).	separately in quantitative synthesis	
Steffens, 2016	Australia	JAMA Intern Med	MA	Exercise plus education versus control, minimal intervention, or supplement/ Definition was not given	Low back pain (prevention)	6 (RCTs) /n= 580	Low back pain episode Sick leave	Use of random effects synthesis for pooled effect estimates. A meta-analysis of four RCTs provided moderate-quality evidence that exercise plus education reduce the risk of an episode of LBP at short-term follow-up. The long-term results are based on two trials and provide low-quality evidence of a protective effect. The pooled results of three RCTs provided low-quality evidence of no protective effect at short-term follow-up and pooled results of two RCTs provided low-quality evidence of no protective effect at long-term follow-up.	The evidence was examined separately in quantitative synthesis	**N**
Brady, 2016	Australia	Pain	SR	MMRP versus waiting list, exercise only, and culturally sensitive exercise/ Definition was not given	Chronic low back pain Chronic neck pain Chronic spinal pain Nonspecific or chronic widespread	4 (RCTs)/ n=349	Pain Functional capacity Disability Disease-related impact Ability to work and actual work	No significant effects on pain were found. For one RCT a significant effect for disease-related impact was reported. No significant effects on quality of life. Positive effect on psychological outcomes (four RCTs). For two RCTs, no significant effect for any outcome measure was reported.	Limited evidence	Y

					pain (including fibromyalgia)		Quality of life Psychological outcomes			
Monticone, 2015	Italy	CDSR	MA	CBT plus exercise or physiotherapy versus exercise or physiotherapy alone/ Definition was not given	Neck pain (subacute and chronic)	3 (RCTs)/ n=200	Pain Disability	Use of random effects synthesis for pooled effect estimates. A meta-analysis of the three RCTs showed no significant effects on both pain and disability.	The evidence was examined separately in quantitative synthesis	**N**
Kamper, 2015	Australia	BMJ	MA	MMRP versus other interventions, placebo/sham interventions, no intervention, waiting list or no control/ Definition was given	Chronic low back pain	41 (RCTs)/ n= 6858	Pain Disability Work Adverse events/ complications	Duplicate publication of 2014 Cochrane systematic review. Use of fixed and random effects synthesis for pooled effect estimates. Sixteen trials provided moderate quality evidence that MMRP decreased pain and disability compared with usual care. Nineteen trials provided low quality evidence that MMRP decreased pain and disability compared with physical treatments, but significant statistical heterogeneity across trials was present. Eight trials provided moderate quality evidence that MMRP improves the odds of being at work one year after intervention compared with physical treatments. Seven trials provided moderate quality evidence that MMRP does not improve the odds of being at work compared with usual care. Two trials that compared MMRP with surgery found little difference in outcomes and an increased risk of adverse events with surgery.	Moderate evidence	Y (duplicate publication)
Kamper, 2014	Australia	CDSR	MA	MMRP versus other interventions, placebo/sham interventions, no intervention, waiting list or no control/ Definition was given	Chronic low back pain	41 (RCTs)/ n= 6858	Back pain Disability Work Quality of life Catastrophising Fear avoidance	Use of fixed and random effects synthesis for pooled effect estimates. Pooled estimates from 16 RCTs provided moderate to low quality evidence that MBR is more effective than usual care in reducing pain and disability. There was moderate to low quality evidence of no difference on work outcomes at long term. Pooled estimates from 19 RCTs provided moderate to low quality evidence that MMRP was more effective than physical treatment for pain and disability. There was moderate to low	The evidence was examined separately in quantitative synthesis	Y

							Healthcare visits Depression Coping Self-efficacy Anxiety Adverse events/ complications	quality evidence of an effect on work outcomes at long term. There was insufficient evidence to assess whether MMRPs were associated with more adverse events than usual care or physical interventions.		
Schaafsma, 2013	Australia	CDSR	MA	Interdisciplinary physical conditioning programs versus any type of control/ Definition was not given	Low back pain (subacute and chronic)	19 (RCTs)/ n=3371	Time to return to work Proportion off work	Use of fixed and random effects synthesis for pooled effect estimates. For subacute low back pain, a meta-analysis of two RCTs showed favorable effects of MMRP compared to exercise on long term proportion off work. Pooled results of two other RCTs showed evidence in favor MMRP compared to treatment as usual on time to return to work very long term follow up for patients with subacute low back pain. A meta-analysis of five other RCTs showed evidence in favor MMRP versus treatment as usual on time to return to work long term follow up for patients with chronic low back pain. All other comparisons showed no significant effects.	The evidence was examined separately in quantitative synthesis	**N**
Van Middelkoop,2011	Netherlands	Eur Spine J	MA	MMRP versus no treatment or waiting list controls/ Definition was not given	Chronic low back pain	3 (RCTs)/ n=319	Pain intensity Disability Perceived return to work Side effects	Use of random effects synthesis for pooled effect estimates. One RCT reported significantly greater improvement on post-treatment pain intensity in favor MMRP compared to waiting list. A meta-analysis of two studies showed evidence in favor MMRP on short-term pain and disability. Long-term outcomes revealed no statistically significant differences between a MMRP and no treatment. One study reported on sick leave and found a statistically significant difference at 4-months follow-up between MMRP and no treatment group.	The evidence was examined separately in quantitative synthesis	**N**

Teasell, 2010	London	Pain Res Manag	SR	MMRP versus other interventions, placebo/sham interventions, no intervention, waiting list or no control/ Definition was not given	Whiplash-associated disorders (subacute)	3 (1 RCTs and 2 non RCTs)/ n=2248	Pain intensity Cervical range of motion Subjective assessment of treatment efficacy Return to work Catastrophizing Kinesiophobia Time to insurance file closure Amount of insurance compensation	The one RCT found that MMRP was more effective in reducing pain and sick leave than an intervention consisting of passive physiotherapy modalities. One non-RCT (with no control) found that patients who began MMRP within three months of injury were significantly more likely to return to work than those who began therapy after six months. The other non –RCT found that patients who participated in an MMRP after four weeks of standard therapy experienced a significantly higher rate of insurance file closure and compensation ending one year after injury.	Limited evidence	Y
Teasell, 2010	London	Pain Res Manag	SR	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was not given	Whiplash-associated disorders (chronic)	9 (2 RCTs and 7 non RCTs)/ n=367	Pain Disability Life satisfaction, Kinesiophobia, Depressive symptomology Psychological distress Psychological flexibility Return to work Head repositioning	One RCT showed no significant between group differences and the other RCT reported significantly greater improvements in terms of pain disability, life satisfaction, kinesiophobia, depressive symptomology and psychological flexibility. Five of the seven non RCTs reported that MMRP was associated with significant benefit in terms of pain intensity, disability, psychological distress, return to work rates, head repositioning accuracy, the proportion of tender muscles in whiplash-related temporomandibular disorder, coping skills and life satisfaction. Only one of the seven non RCTs provided non-significant treatment effects following MMRP.	Limited evidence	Y

							accuracy Proportion of tender muscles in whiplash-related disorder Coping skills			
Schaafsma, 2010	Australia	CDSR	MA	Interdisciplinary physical conditioning programs versus any type of control/ Definition was not given	Low back pain (subacute and chronic)	19 (RCTs)/ n= 3371	Time between intervention and return-to-work Return-to-work status in terms of "at work" or 'off work" Time on light or modified duties	Update version on 2013 systematic in CDSR Use of fixed and random effects synthesis for pooled effect estimates. In 14 studies, physical conditioning programs were compared to usual care. In workers with acute back pain, there was no effect on sickness absence. For workers with subacute back pain, conflicting results were found, but subgroup analysis showed a positive effect of interventions with workplace involvement. In workers with chronic back pain, pooled results of five studies showed a small effect on sickness absence at long-term follow-up. In workers with chronic back pain, physical conditioning programs were compared to other exercise programs in six studies, with conflicting results.	Limited evidence	Y (update version)
Ravenek ,2010	Canada	Work	SR	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Chronic low back pain	12 (RCTs)/ n=1913	Employment Pain Functional status	Four studies found that MMRP had a significant effect on employment outcomes and eight studies did not find this treatment effective. From nine studies that assessed the effectiveness of MMRP on reducing pain, only one found a significant difference for pain reduction using MMRP. From seven studies that evaluated the effect of MMRP on functional status, only one found a significant effect on functional status	Limited evidence	Y
Henschke. 2010	Netherlands	CDSR	MA	Behavioural treatment plus physiotherapy versus physiotherapy/	Chronic low back pain	4 (RCTs) /n=534	Pain intensity Depression	Use of fixed and random effects synthesis for pooled effect estimates. A meta-analysis of two studies showed no evidence in all examined outcomes.	The evidence was examined separately in quantitative	**N**

				Definition was not given			Functional status		synthesis	
Häuser, 2009	Germany	Arthritis Rheum	MA	MMRP versus education, waiting list, treatment as usual and relaxation/ Definition was given	Fibromyalgia	9 (RCTs)/ n= 1119	Pain Fatigue Sleep Depressed mood Quality of life Self-efficacy pain Physical fitness	Use of fixed and random effects synthesis for pooled effect estimates. A meta-analysis of three studies showed that MMRP reduces pain, fatigue, and depressed mood. There is no evidence (1 low-quality study) that MMRP reduces sleep disturbances. There is strong evidence (3 RCTs) that MMRP reduces limitations of quality of life and improves self-efficacy pain and physical fitness. There was no evidence of MMRP efficacy on pain, fatigue, sleep disturbances, depressive symptoms, quality of life, or self-efficacy pain in the long term.	The evidence was examined separately in quantitative synthesis	**N**
Norlund, 2009	Sweden	J Rehabil Med	MA	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Low back pain (subacute and chronic)	7 (5 RCTs and 2 CCTs)/ n= 1450	Return to work	Use of fixed effects synthesis for pooled effect estimates. A meta-analysis of all seven studies indicated a limited effect in terms of return to work. Meta-analysis based on five studies from Scandinavia verified the scientific evidence for the efficacy of MMRP on return to work. Two studies showed no significant effect on return to work prior to >12 weeks sickness absence.	The evidence was examined separately in quantitative synthesis	**N**
Sarzi-Puttini, 2008	Italy	Semin Arthritis Rheum.	SR	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Fibromyalgia	12 (10 RCTs and 2 CCTs)/ n=919	Pain Fibromyalgia symptoms Health status Mood Ability to walk Work status Quality of life	Four studies reported effects on pain. One study showed that MMRP group was better than waiting list but not education only in terms of self-efficacy. Four studies reported effects of ability to walk. One study reported effects in terms of health status, pain, and mood, drug use or work status. Two studies provided evidence in favor MMRP on fibromyalgia symptoms. One showed evidence in favor MMRP on quality of life. Two studies showed no differences between the groups.	Limited evidence	Y

							Self-efficacy			
Scascighini, 2008	Switzerland	Rheumatology (Oxford)	SR	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Chronic low back and fibromyalgia	35 (RCTs)/ n=2407	Pain Emotional strain Quality of life Disability Coping Physical capacity Return to work Sick leave Drug intake Pain behavior	Pooled meta-analysis was not performed due to large heterogeneity of included studies. Of 15 RCTs comparing MMRP versus waiting list, 13 reported positive results, and two did not demonstrate positive results in at least two out of the five primary outcomes, or at least in one of the primary and two of the secondary outcomes. Of 15 RCTs comparing MMRP versus other control groups 10 reported positive results, and five did not demonstrate positive results in at least two out of the five primary outcomes, or at least in one of the primary and two of the secondary. Of four RCTs comparing inpatient MMRP vs outpatient MMRP three reported positive results, and one did not demonstrate positive results in at least two out of the five primary outcomes, or at least in one of the primary and two of the secondary outcomes.	Moderate evidence	Y
van Koulil, 2007	Netherlands	Ann Rheum Dis	SR	Multimethod CBT plus exercise training /Definition as MMRP was not given	Fibromyalgia	6 (RCTs)/ n=681	Pain Disability Mood	Two studies reported effects for disability. Only one study showed an improvement in pain and mood. Of the three studies that included follow-up assessments, two studies found long-term effects on pain and disability and one also on mood.	Limited evidence	Y
van Geen, 2007	Netherlands	Spine (Phila Pa 1976)	SR	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Chronic low back pain	10 (RCTs)/ n=1958	Work participation, Pain Functional status Quality of life	Four studies found a positive effect on work status while in four others no effect was found. Only one study found a positive effect on pain and functional status, while seven showed no effect on these outcomes. One study found a positive effect on quality of life and in one no effect was found.	Limited evidence	Y

Hoffman, 2007	USA	Health Psychol	MA	MMRP versus active control /Definition was not given	Chronic low back pain	5 (RCTs) /n=719	Pain intensity Pain interference Working disability	Polled meta-analysis of four comparisons showed that MMRP was superior to active control conditions at posttreatment at reducing pain interference, but not pain intensity. Results of five comparisons showed that MMRP were not superior to active controls for pain intensity or pain interference (four comparisons) at follow-up. MMRP was superior to active control conditions at improving the percentage who returned to work at follow up (three comparisons).	The evidence was examined separately in quantitative synthesis	**N**
Burckhardt, 2006	USA	Curr Pharm Des	SR	Exercise combined with education and CBT versus wait list control or no treatment/ Definition was given	Fibromyalgia	10 (8 RCTs, 2 CCTs) /n = 1340	Pain Fibromyalgia symptoms Arthritis self-efficacy Self-efficacy	Four studies showed statistically significant improvement on pain (4 of 8 RCTs). Self-efficacy was significantly enhanced in the treated groups in 4 of the 5 studies, and the overall f fibromyalgia symptoms was significantly decreased in 3 of 5 studies.	Moderate evidence	Y
Tveito, 2004	Norway	Occup Med (Lond)	SR	MMRP versus physical agents/ Definition was not given	Low back pain (prevention)	2 (1 RCT and 1 CCT)/ n=271	Pain Anxiety Depression Usual subjective disability Health complaints Sick leave Cost related to medical claims and sick leave Prevalence of back pain	One study found no significant difference between the groups on sick leave, but demonstrated a clinically important positive effect on level of pain. One study reported positive effects on costs and new episodes of low back pain.	No evidence	Y

Karjalainen, 2003	Finland	CDSR	MA	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Low back pain (subacute)	2 (RCTs)/ n=233	Pain intensity Global status Disorder specific functional status Generic functional status or quality of life Ability to work Health care consumption and costs Satisfaction with treatment	Meta-analysis was not performed because of limited number of included studies. One study showed efficacy for subjective disability in one year follow-up in favor MMRP compared to usual care. No other significant effects were observed.	No evidence	Y (no synthesis of data)
Karjalainen, 2003	Finland	CDSR	MA	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Neck and shoulder pain	2 (1RCT and 1 CCT)/ n=177	Pain intensity Global status Disorder specific functional status Generic functional status or quality of life Ability to work Health care consumption and costs Satisfaction with treatment	Meta-analysis was not performed because of limited number of included studies. Both studies did not show any effectiveness of MMR compared to control groups in any of the assessed outcomes.	No evidence	Y (no synthesis of data)
Schonstein, 2003	Australia	CDSR	MA	Interdisciplinary physical	Neck and back pain (only data	18 RCTs/	Work-status	Update version on 2010 and 2013 systematic in CDSR. Pooling of the results of two RCTs	Limited	Y (update version)

				conditioning programs versus any type of control/ Definition was not given	for back pain was available	n=3280	outcomes Functional status Physiological outcomes of physical examination Functional status in relation to job demands Predicted work capacity with or without follow-up results	showed that physical conditioning programs that include a cognitive-behavioural approach can reduce the number of sick days lost at 12 months follow-up by an average of 45 days, when compared to general practitioner usual care or advice, for workers with chronic back pain. For work-related outcomes, there is little evidence for or against the efficacy of specific exercises that are not accompanied by a cognitive-behavioural approach, in reducing sick days lost due to back pain, for workers with either acute or chronic back pain.	evidence	
Schonstein, 2003	Australia	Spine (Phila Pa 1976)	MA	Interdisciplinary physical conditioning programs versus any type of control/ Definition was not given	Neck and back pain (only data for back pain was available)	7 (RCTs)/ n=552	Number of sick days lost or work status	Duplicate publication on 2003 systematic review in CDSR. Pooling of the results of two RCTs suggested that at 12 months' follow-up a physical conditioning program reduces the number of sick leave days by an average of 45 days when compared to general practitioner usual care or advice. One study showed a mean of 62 days reduction on sick leave. Three other studies did not provided data. Only one study provided clear evidence of no treatment effect.	Limited evidence	Y (duplicate publication)
Guzmán, 2002	Canada	CDSR	MA	MMRP versus non-multidisciplinary inpatient or outpatient rehabilitation, usual care, or no treatment, waiting list/Definition was given	Chronic low back pain	10 (RCTs)/ n= 1964	Pain severity Global improvement Functional status Quality of life Employment status	Treatment effect sizes for 12 comparisons of MMRP and a control condition were calculated. There was strong evidence that intensive MMRP with functional restoration improves function when compared with inpatient or outpatient non-MMRP treatments (3 RCTs) . There was moderate evidence that intensive MMPR with functional restoration reduces pain when compared with outpatient non-multidisciplinary rehabilitation or usual care treatments (3 RCTs). There was contradictory evidence regarding vocational outcomes of intensive MMRP. Some trials reported improvements in work readiness, but others showed no significant reduction in sickness	The evidence was examined separately in quantitative synthesis	**N**

								leaves treatments (3 RCTs). Less intensive outpatient MMRP did not improve pain, function, or vocational outcomes when compared with non-multidisciplinary outpatient therapy or usual care treatments (3 RCTs). Few trials reported effects on quality of life or global assessments.		
Guzmán, 2001	Canada	BMJ	MA	MMRP versus non-multidisciplinary inpatient or outpatient rehabilitation, usual care, or no treatment, waiting list/Definition was given	Chronic low back pain	10 (RCTs)/ n= 1964	Pain Function Employment Quality of life Global assessments	Duplicate publication on 2002 systematic review in CDSR. Treatment effect sizes for 12 comparisons of MMRP and a control condition were calculated. There was strong evidence that intensive MMRP with functional restoration improves function when compared with inpatient or outpatient non-MMRP treatments (3 RCTs). There was moderate evidence that intensive MMPR with functional restoration reduces pain when compared with outpatient non-multidisciplinary rehabilitation or usual care treatments (3 RCTs). There was contradictory evidence regarding vocational outcomes of intensive MMRP. Some trials reported improvements in work readiness, but others showed no significant reduction in sickness leaves treatments (3 RCTs). Less intensive outpatient MMRP did not improve pain, function, or vocational outcomes when compared with non-multidisciplinary outpatient therapy or usual care treatments (3 RCTs). Few trials reported effects on quality of life or global assessments.	Moderate evidence	Y (duplicate publication)
Karjalainen, 2001	Finland	Spine (Phila Pa 1976)	MA	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Neck and shoulder pain	2 (1RCT and 1 CCT)/ n=177	Pain intensity Global status Disorder specific functional status Generic functional status or quality of life	Meta-analysis was not performed because of limited number of included studies. Both studies did not show any effectiveness of MMR compared to control groups in any of the assessed outcomes.	No evidence	Y (duplicate publication)

							Ability to work Health care consumption and costs Satisfaction with treatment			
Peeters, 2001	Netherlands	Spine (Phila Pa 1976)	SR	MMRP versus physical agents/Definition was not given	Whiplash associated disorders	1 (RCT)/ n=60	Pain Cervical ROM Self-rating scale of treatment efficacy Return-to-work Delay	Meta-analysis was not performed because of limited number of included studies. The one study reported a positive effect of multimodal treatment at short and long-term follow-up on pain and global perceived and for return-to-work delay. No significant differences in ROM.	Limited evidence	Y
Karjalainen, 2001	Finland	Spine (Phila Pa 1976)	MA	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Low back pain (subacute)	2 (RCTs)/ n=233	Pain intensity Global status Disorder specific functional status Generic functional status or quality of life Ability to work Health care consumption and costs Satisfaction with	Duplicate publication on 2000 systematic review in CDSR. Meta-analysis was not performed because of limited number of included studies One study showed efficacy for subjective disability in one year follow-up in favor MMRP compared to usual care. No other significant effects were observed. Both studies were considered to be methodologically low quality RCTs. The clinical relevance of included studies was sufficient.	Limited evidence	Y (duplicate publication)

							treatment			
Karjalainen, 2000	Finland	CDSR	MA	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Low back pain (subacute)	2 (RCTs)/ n=233	Pain intensity Global status Disorder specific functional status Generic functional status or quality of life Ability to work Health care consumption and costs Satisfaction with treatment	Update on 2003 systematic review in CDSR. Meta-analysis was not performed because of limited number of included studies. One study showed efficacy for subjective disability in one year follow-up in favor MMRP compared to usual care. No other significant effects were observed. Both studies were considered to be methodologically low quality RCTs. The clinical relevance of included studies was sufficient.	Limited evidence	Y (update version)
Karjalainen, 2000	Finland	CDSR	MA	MMRP versus other interventions, placebo/sham interventions, or no intervention, waiting list/ Definition was given	Fibromyalgia including widespread pain	7 (RCTs)/ n= 1050	Pain intensity Global status Disorder specific functional status Generic functional status or quality of life Ability to work Health care consumption and costs Satisfaction with treatment	Meta-analysis was not performed because of heterogeneity of included studies. None of these were considered, methodologically, a high quality randomized controlled trial. Four of the included RCTs on fibromyalgia were graded low quality and suggest no quantifiable benefits. The three included RCTs on widespread musculoskeletal pain showed no evidence of efficacy.	No evidence	Y (update version)

Feuerstein, 1994	USA	Journal of Occupational Rehabilitation	SR	MMRP versus other interventions, placebo/sham interventions, or no intervention or waiting list/ Definition was given	Chronic back pain	7 (1 RCT, 4 CCTs, 2 single group design) /n=1025	Return to work	The seven studies demonstrated a mean return to work rate of 71 percent, ranging from 59 percent to 85 percent at 12 month follow-up in outpatient multidisciplinary rehabilitation for chronic back pain in contrast to an average of 44 percent in corresponding comparison groups.	No evidence	Y

Abbreviations: USA: United States of America; CDSR: Cochrane Databases of Systematic Reviews; SR: systematic review; MA: meta-analysis; RCTs: randomised controlled trials; CCTs: clinical controlled trials; MMRP: multimodal rehabilitation programs; Y: yes; N: no

Table SIV Studies excluded after full-text revision, with reasons

Author, year (Reference)	Reason for exclusion
Chou, 2017 [5]	Systematic review based on other systematic reviews or meta-analyses
Papadopoulou, 2016 [53]	Data not available (primary)
Turk, 1998 [40]	Full-text could not be retrieved
Flor, 1992 [11]	Full-text could not be retrieved
Okifuji, 2010 [29]	Not a meta-analysis or systematic review
Garcia, 2016 [12]	Commentary
Guzmán, 2007 [15]	Withdrawn
Hu, 2015 [19]	Not a meta-analysis or systematic review of MMRP
Hoefsmit, 2012 [18]	Mixed pain populations with various musculoskeletal disorders
Nanadiego, 2016 [27]	Commentary
Turner, 1996 [41]	Not a meta-analysis or systematic review of MMRP
Okifuji, 2013 [30]	Not a meta-analysis or systematic review
Wellington, 2014 [48]	Not a meta-analysis or systematic review
Williams, 2007 [51]	Not a meta-analysis or systematic review of MMRP
Oliver, 2001 [31]	Full-text could not retrieved
Williams, 2006 [50]	Not a meta-analysis or systematic review of MMRP
di Fabio, 1995 [10]	Full-text could not retrieved
van Vilsteren, 2015 [45]	Mixed pain populations with various musculoskeletal disorders
van der Hulst, 2005 [42]	Not a meta-analysis or systematic review of treatment effects
van der Weide, 1997 [43]	Not a separate analysis of MMRP
Malone, 1998 [26]	Full-text could not be retrieved
Aronoff, 1983 [2]	Full-text could not be retrieved
Hallett, 1982 [16]	Not a meta-analysis or systematic review
Waterschoot, 2014 [47]	Focused on dose aspects of treatment not on treatment effects
Perrot, 2014 [33]	Not a separate analysis of MMRP

Deckert, 2016 [8]	Not a meta-analysis or systematic review of treatment effects
Maher, 2000 [25]	Not a meta-analysis or systematic review of MMRP
Sim, 2002 [37]	Not a separate analysis of MMRP
Rossy, 1998 [35]	Not a separate analysis of MMRP
Wiangkham, 2015 [49]	Not a separate analysis of MMRP
Yu, 2016 [52]	Not a meta-analysis or systematic review of MMRP
Bearne, 2017 [3]	Not a pain condition of interest; Rheumatoid arthritis
Lühmann, 2006 [24]	Data not available (primary)
Hüppe, 2003 [20]	Article in German
Hlobil, 2005 [17]	Not a separate analysis of MMRP
Nijs, 2009 [28]	Not a meta-analysis or systematic review
Verhagen, 2007 [46]	Not a meta-analysis or systematic review of MMRP
Adams, 2005 [1]	Not a meta-analysis or systematic review
Demoulin, 2012 [9]	Not a meta-analysis or systematic review of MMRP
Pengel, 2002 [32]	Not a meta-analysis or systematic review of MMRP
Kuoppala, 2008 [23]	Not a separate analysis of MMRP
Pincus, 2013 [34]	Not a meta-analysis or systematic review
Thomsen, 2001 [39]	Not a meta-analysis or systematic review of treatment effects
Brunner, 2016 [4]	Not a meta-analysis or systematic review of MMRP
de Rooij, 2013 [7]	Not a meta-analysis or systematic review of treatment effects
Cutler, 1994 [6]	Full-text could not be retrieved
Keel, 1999 [21]	Not a meta-analysis or systematic review
van Oostrom, 2009 [44]	Mixed pain populations with various musculoskeletal disorders
Kudrina, 2015 [22]	Not a meta-analysis or systematic review of pain condition of interest; Rheumatic pain
Stanos, 2006 [38]	Not a meta-analysis or systematic review
Goldenberg, 2009 [14]	Not a meta-analysis or systematic review
Goldenberg, 2008 [13]	Not a meta-analysis or systematic review
Rolli Salathé, 2012 [36]	Article in German

MMRP= multimodal/multidisciplinary rehabilitation programs

Table SV Methodological quality of included reviews using the AMSTAR tool

Author (year)	Criteria											Total "Y"	Total "N"	Total "n/a"	Total score
	1	2	3	4	5	6	7	8	9	10	11				
Marin, 2017	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	9	2	0	9/11
Sutton, 2016	Y	Y	Y	Y	N	Y	Y	Y	Y	NA	N	8	2	1	8/11
O'Keeffe, 2016	Y	Y	Y	N	N	Y	Y	N	Y	N	N	6	5	0	6/11
Steffens, 2016	N	Y	Y	Y	N	Y	Y	N	Y	N	N	6	5	0	6/11
Brady, 2016	N	N	Y	Y	N	Y	Y	Y	NA	NA	N	5	4	2	5/11
Monticone, 2015	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	9	2	0	9/11
Kamper, 2015	Y	Y	Y	N	N	Y	Y	Y	Y	Y	N	8	3	0	8/11
Kamper, 2014	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	10	1	0	10/11
Schaafsma, 2013	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	9	2	0	9/11
Van Middelkoop, 2011	N	Y	Y	Y	N	Y	Y	Y	Y	N	N	7	4	0	7/11
Teasell, 2010	Y	Y	Y	Y	N	Y	Y	Y	NA	NA	N	7	2	2	7/11
Teasell, 2010	Y	Y	Y	Y	N	Y	Y	Y	NA	NA	N	7	2	2	7/11
Schaafsma, 2010	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	9	2	0	9/11
Ravenek , 2010	N	Y	Y	Y	N	Y	Y	Y	NA	NA	N	6	2	2	6/11
Henschke, 2010	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	10	1	0	10/11
Häuser, 2009	N	Y	Y	Y	N	Y	Y	Y	Y	Y	N	7	3	0	7/11
Norlund, 2009	N	N	N	Y	Y	Y	Y	N	Y	Y	N	6	4	0	6/11
Sarzi-Puttini, 2008	N	N	NA	Y	N	Y	N	N	NA	NA	N	2	6	3	2/11

Scascighini, 2008	N	Y	Y	N	Y	Y	Y	Y	NA	NA	N	6	3	2	6/11
van Koulil, 2007	N	N	Y	N	Y	Y	Y	Y	NA	NA	N	5	4	2	5/11
van Geen, 2007	N	Y	Y	N	N	Y	Y	Y	NA	NA	N	5	4	2	5/11
Hoffman, 2007	N	Y	Y	Y	N	Y	Y	Y	Y	N	N	7	4	0	7/11
Burckhardt, 2006	N	NA	Y	Y	N	Y	Y	Y	NA	NA	N	5	3	3	5/11
Tveito, 2004	N	Y	Y	Y	N	Y	Y	Y	NA	NA	N	6	3	2	6/11
Karjalainen, 2003	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	9	2	0	9/11
Karjalainen, 2003	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	9	2	0	9/11
Schonstein, 2003	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	9	2	0	9/11
Schonstein, 2003	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	9	2	0	9/11
Guzmán, 2002	Y	Y	Y	N	Y	Y	Y	Y	Y	N	N	8	3	0	8/11
Guzmán, 2001	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	7	4	0	7/11
Karjalainen, 2001	N	Y	Y	Y	N	Y	Y	Y	Y	N	N	7	4	0	7/11
Peeters, 2001	N	Y	Y	Y	N	Y	Y	Y	NA	NA	N	6	3	2	6/11
Karjalainen, 2001	Y	Y	Y	Y	N	Y	Y	Y	NA	NA	N	6	4	2	7/11
Karjalainen, 2000	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	N	8	1	2	8/11
Karjalainen, 2000	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	N	8	1	2	8/11
Feuerstein, 1994	N	N	N	N	N	Y	Y	Y	NA	NA	N	3	6	2	3/11

Table SVI Description of the 134 associations of the effectiveness of multidisciplinary biopsychosocial rehabilitation for pain management and treatment in neck pain, spinal pain, low back pain, and fibromyalgia.

Short-term outcomes (≤3 months; n=47)[a]						**Summary effect (95% Confidence interval)**						
Author, Year	**Outcome**	**Intervention Group**	**Control group**	**Pain condition**	**Intervention/ Control N**	**Fixed -Effects[§]**	**Random- effects[§§]**	**Largest Study[†]**	**Fixed P-value[¶]**	**Random P-value[‖]**	**I^2 (%)**	**95% Prediction interval**
Marin, 2017	Pain	Multidis	TAU	Subacute LBP	143/129	-0.40 (-0.64, -0.15)	-0.40 (-0.74,-0.06)	-0.24 (-0.63, 0.15)	0.001	0.021	44	-1.63,0.83
Marin, 2017	Disability	Multidis	TAU	Subacute LBP	143/129	-0.38 (-0.63, -0.14)	-0.38 (-0.63, -0.14)	-0.20 (-0.59, 0.18)	0.002	0.002	0	-0.92,0.15
Marin, 2017	Pain	Multidis	Other treatment	Subacute LBP	77/78	-0.11 (-0.41, 0.20)	-0.09 (-0.50, 0.33)	-0.27 (-0.66, 0.12)	0.494	0.691	44	NA
Marin, 2017	Disability	Multidis	Other treatment	Subacute LBP	77/78	0.01 (-0.30, 0.31)	0.00 (-0.34, 0.34)	0.14 (-0.25, 0.52)	0.969	0.985	17	NA
Kamper, 2014	Pain	Multidis	TAU	Chronic LBP	433/ 446	-0.47 (-0.61, -0.33)	-0.55 (-0.83,-0.27)	-0.20 (-0.46,0.06)	$9.4x10^{-12}$	$9.9x10^{-5}$	72	-1.44,0.33
Kamper, 2014	Disability	Multidis	TAU	Chronic LBP	461/478	-0.38 (-0.51, -0.25	-0.41 (-0.62,-0.19)	-0.21 (-0.47,0.05)	$7.2x10^{-9}$	$2.5x10^{-4}$	58	-1.04,0.22
Kamper, 2014	Work	Multidis	TAU	Chronic LBP	167/206	1.07 (0.60,1.90)	1.07 (0.60,1.90)	0.91 (0.31, 2.68)	0.817	0.817	0	NA
Kamper, 2014	Pain	Multidis	Physical	Chronic LBP	810/ 851	-0.25 (-0.35, -0.16)	-0.30 (-0.54,-0.06)	-0.15 (-0.36,0.05)	$3.1x10^{-7}$	0.015	80	-1.15,0.55
Kamper, 2014	Disability	Multidis	Physical	Chronic LBP	928/950	-0.20 (-0.30,-0.11)	-0.39 (-0.68,-0.10)	0.24 (0.03,0.45)	$1.5x10^{-5}$	0.009	88	-1.50,0.72
Kamper, 2014	Work	Multidis	Physical	Chronic LBP	193/186	1.67 (1.04, 2.67)	1.60 (0.92,2.78)	2.38 (1.26, 4.51)	0.032	0.094	23	0.02,169.19
Kamper, 2014	Pain	Multidis	WL	Chronic LBP	106/107	-0.69 (-0.98-0.41)	-0.73 (-1.22, -0.24)	-0.45 (-0.84,-0.06)	$1.1x10^{-6}$	0.003	64	-6.10,4.64
Kamper, 2014	Disability	Multidis	WL	Chronic LBP	106/107	-0.49 (-0.76,-0.22)	-0.49 (-0.76,-0.22)	-0.49 (-0.88, -0.10)	$4.6x10^{-4}$	$4.6x10^{-4}$	0	-2.27,1.29
Kamper, 2014‡	QoL (PCS)	Multidis	TAU	Chronic LBP	78/66	0.70 (0.35, 1.04)	0.70 (-0.05, 1.46)	1.09 (0.60,1.58)	$6.2x10^{-5}$	0.069	94	NA
Kamper, 2014‡	QoL (MCS)	Multidis	TAU	Chronic LBP	78/66	0.79 (0.45, 1.14)	0.79 (0.45, 1.14)	0.87 (0.40, 1.35)	$5.3x10^{-6}$	$5.3x10^{-6}$	0	NA
Kamper, 2014	Catastrophising	Multidis	TAU	Chronic LBP	48/51	-0.43 (-0.83, -0.03)	-0.43 (-0.83, -0.03)	-0.50 (-0.96, -0.05)	0.037	0.037	0	NA
Kamper, 2014	Fear avoidance	Multidis	TAU	Chronic LBP	122/131	-0.44 (-0.69, -0.18)	-0.69 (-1.52, 0.14)	-0.37 (-0.63, -0.11)	0.001	0.099	70	NA
Kamper, 2014	QoL	Multidis	Physical	Chronic LBP	272/296	0.00 (-0.16,0.16)	-0.04 (-0.34, 0.26)	0.09 (-0.13, 0.30)	0.983	0.818	63	-3.31,3.24
Kamper, 2014	Depression	Multidis	Physical	Chronic LBP	432/479	0.07 (-0.06, 0.20)	0.05 (-0.12, 0.22)	0.23 (0.03, 0.44)	0.277	0.569	25	-0.30,0.40
Kamper, 2014	Coping	Multidis	Physical	Chronic LBP	130/152	0.22 (-0.02, 0.45)	0.22 (-0.02, 0.45)	0.17 (-0.08, 0.42)	0.067	0.067	0	-0.02, 0.45
Kamper, 2014	Self-efficacy	Multidis	Physical	Chronic LBP	206/226	0.23 (0.04, 0.42)	0.27 (-0.08, 0.61)	0.05 (-0.20, 0.30)	0.016	0.129	58	-3.35,3.88
Kamper, 2014	Anxiety	Multidis	Physical	Chronic LBP	174/203	0.05 (-0.16, 0.25)	-0.10 (-0.67, 0.47)	0.08 (-0.13, 0.29)	0.657	0.740	49	NA
Kamper, 2014	Adverse events/ Complications	Multidis	Surgery	Chronic LBP	197/188	28.25 (3.77,211.93)	28.25 (3.77,211.93)	40.04 (2.39, 671.14)	0.002	0.002	0	NA
Kamper, 2014	Depression	Multidis	WL	Chronic LBP	106/ 107	-0.20 (-0.47, 0.07)	-0.21 (-0.59, 0.18)	-0.05 (-0.43, 0.33)	0.149	0.293	45	-3.98,3.57
Norlund, 2009	Return to work	Multidis	Conservative	Subacute and chronic LBP	912/874	1.16 (1.09,1.23)	1.18 (1.06, 1.31)	1.01 (0.93,1.11)	$2.8x10^{-5}$	0.003	62	0.86,1.60
Steffens, 2016	Episode of LBP	Exercise+ education	Control	LBP (prevention)	229/ 255	0.55 (0.41,0.74)	0.55 (0.41,0.74)	0.36 (0.18,0.73)	$3.6x10^{-5}$	$3.6x10^{-5}$	0	0.30,1.02
Steffens, 2016	Sick Leave	Exercise+ education	Control	LBP (prevention)	107/121	0.74 (0.44-1.26)	0.74 (0.44-1.26)	0.58 (0.12,2.84)	0.262	0.262	0	0.03,20.25

O'Keeffe, 2016	Disability	Physical	Physical+behavioral/psychologically informed	Chronic LBP + NP	261/ 268	0.28 (0.11, 0.46) #	0.27 (0.01,0.54) #	0.09 (-0.22,0.40)	0.001	0.044	56	-0.57,1.12
O'Keeffe, 2016‡	Pain	Physical	Physical+behavioral/psychologically informed	Chronic LBP + NP	261/ 268	0.20 (0.03, 0.38)	0.21 (-0.04,0.45)	-0.04 (-0.35, 0.27)	0.020	0.104	50	-0.54,0.95
Monticone, 2015	Pain	CBT+physical	physical	Chronic NP	96/89	-0.39 (-0.68, -0.09)	-0.36 (-0.73, 0.02)	-0.62 (-1.07, -0.17)	0.010	0.065	37	-3.83,312
Monticone, 2015	Disability	CBT+physical	physical	Chronic NP	96/89	-0.15 (-0.44, 0.14)	-0.10 (-0.56, 0.36)	-0.49 (-0.94, -0.05)	0.321	0.683	57	-5.01,4.82
van Middelkoop, 2011‡	Pain intensity	Multidis	NT/WL	Chronic LBP	201/201	-0.42 (-0.62, -0.22)	-0.42 (-0.62, -0.22)	-0.45 (-0.67, -0.22)	$3.4x10^{-5}$	$3.4x10^{-5}$	0	NA
van Middelkoop, 2011‡	Disability	Multidis	NT/WL	Chronic LBP	201/202	-0.34 (-0.54, -0.15)	-0.34 (-0.54, -0.15)	-0.29 (-0.52, -0.07)	0.001	0.001	0	NA
van Middelkoop, 2011‡	Pain intensity	Multidis	Active control	Chronic LBP	189/169	-0.48 (-0.69, -0.27)	-0.56 (-0.98,-0.15)	-0.40 (-0.64, -0.17)	$7.3x10^{-6}$	0.007	59	NA
Häuser, 2009	Pain	Multidis	Control	Fibromyalgia	136/125	-0.37 (-0.62,-0.13)	-0.37 (-0.62,-0.13)	-0.55 (-1.02,-0.08)	0.003	0.003	0	-0.77,0.03
Häuser, 2009	Fatigue	Multidis	Control	Fibromyalgia	86/76	-0.38 (-0.70,-0.07)	-0.38 (-0.70,-0.07)	-0.56 (-1.06, -0.06)	0.017	0.017	0	-2.41,1.65
Häuser, 2009	Depressive symptoms	Multidis	Control	Fibromyalgia	122/112	-0.68 (-0.94,-0.41)	-0.67 (-1.08,-0.26)	-1.15 (-1.65, -0.65)	$6.8x10^{-7}$	$1.3x10^{-3}$	56	-2.28,0.94
Henschke, 2010‡	Pain intensity	Behavioural treatment + physiotherapy	Physiotherapy	Chronic LBP	41/18	-0.26 (-0.83, 0.32)	-0.16 (-1.27, 0.95)	-0.69 (-1.41, 0.05)	0.383	0.781	72	NA
Henschke, 2010‡	Depression	Behavioural treatment + physiotherapy	Physiotherapy	Chronic LBP	41/18	0.12 (-0.46,0.70)	0.12 (-0.46,0.70)	0.32 (-0.42,1.06)	0.697	0.697	0	NA
Henschke, 2010‡	Functional status	Behavioural treatment + physiotherapy	Physiotherapy	Chronic LBP	41/18	-0.56 (-1.15, 0.02)	-0.56 (-1.15, 0.02)	-0.59 (-1.34, 0.16)	0.060	0.060	0	NA
Henschke, 2010	Pain intensity	Behavioural treatment + inpatient rehabilitation	Inpatient rehabilitation	Chronic LBP	191/214	-0.15 (-0.34, 0.05)	-0.15 (-0.34, 0.05)	-0.17 (-0.37, 0.04)	0.140	0.140	0	NA
Hoffman, 2009	Pain intensity	Multidis	Active control	Chronic LBP	284 (total)	NA	0.12 (-0.13, 0.38)	NA	NA	0.330	0	NA
Hoffman, 2009	Pain interference	Multidis	Active control	Chronic LBP	501 (total)	NA	0.20 (0.02, 0.37)	NA	NA	0.030	0	NA
Guzman, 2002**	Pain rating	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	85/80	-0.57 (-0.88,-0.26)	-0.57 (-0.88, -0.26)	-0.45 (-0.86, -0.04)	$3.5x10^{-4}$	$3.5x10^{-4}$	0	NA
Guzman, 2002	Functional status	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	234/218	-0.56 (-0.75,-0.37)	-0.66 (-1.02,-0.31)	-0.40 (-0.63,-0.16)	$5.5x10^{-4}$	$2.3x10^{-4}$	63	-4.53,3.21
Guzman,2002	Employment status	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	85/90	0.49 (0.31, 0.68)	0.49 (0.31, 0.68)	0.50 (0.28, 0.73)	$1.7x10^{-7}$	$1.7x10^{-7}$	0	NA
Guzman, 2002	Days on sickness leave	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	300/302	-0.19 (-0.35,-0.03)	-0.45 (-1.29, 0.38)	-0.06 (-0.25, 0.13)	0.021	0.286	94	-10.98,10.0
Guzman, 2002	Pain rating	Less intensive (<30 h) once or twice weekly MBPSR	Control	Chronic LBP	77/65	-0.23 (-0.57, 0.11)	-0.22 (-0.89, 0.45)	-0.06 (-0.51, 0.39)	0.182	0.529	69	-7.77, 7.34
Medium-term outcomes (>3 months and ≤6 months; n=31)[a]												
Marin, 2017	Pain	Multidis	TAU	Subacute LBP	75/80	-0.25 (-0.56, 0.07)	-0.34 (-1.00, 0.31)	-0.04 (-0.42, 0.34)	0.122	0.306	73	NA
Marin, 2017	Disability	Multidis	TAU	Subacute LBP	75/76	-0.35 (-0.68,-0.03)	-0.44 (-1.09, 0.22)	-0.14 (-0.53, 0.26)	0.034	0.184	71	NA
Marin, 2017	Pain	Multidis	Other treatment	Subacute LBP	76/86	-0.42 (-0.75, -0.11)	-0.64 (-1.85, 0.57)	-0.05 (-0.43, 0.34)	0.009	0.294	92	NA
Marin, 2017	Disability	Multidis	Other treatment	Subacute LBP	76/86	-0.32 (-0.64,-0.01)	-0.49 (-1.50, 0.51)	0.0 (-0.38, 0.38)	0.043	0.337	89	NA

Kamper, 2014	Pain	Multidis	TAU	Chronic LBP	371/369	-0.51 (-0.66,-0.36)	-0.60 (-0.85, -0.34)	-0.24 (-0.50, 0.03)	$1.6x10^{-11}$	$5.1x10^{-6}$	63	-1.37,0.18
Kamper, 2014	Disability	Multidis	TAU	Chronic LBP	394/392	-0.36 (-0.50,-0.22)	-0.43 (-0.66, -0.19)	-0.14 (-0.40, 0.13)	$4.7x10^{-7}$	$3.1x10^{-4}$	59	-1.12,0.26
Kamper, 2014	Work	Multidis	TAU	Chronic LBP	212/245	1.78 (1.10, 2.88)	1.60 (0.52, 4.91)	0.48 (0.16, 1.44)	0.019	0.408	80	0.00,98.25
Kamper, 2014	Pain	Multidis	Physical	Chronic LBP	266/265	-0.23 (-0.40,-0.05)	-0.28 (-0.54, -0.02)	-0.04 (-0.40, 0.32)	0.011	0.039	51	-1.01,0.45
Kamper, 2014	Disability	Multidis	Physical	Chronic LBP	259/252	-0.12 (-0.30,0.05)	-0.21 (-0.48, 0.06)	0.21 (-0.16, 0.57)	0.173	0.134	52	-0.96,0.55
Kamper, 2014	Work	Multidis	Physical	Chronic LBP	122/99	2.14 (1.12, 4.10)	2.14 (1.12, 4.10)	2.30 (0.64, 8.35)	0.022	0.022	0	0.03,143.45
Kamper, 2014‡	QoL (PCS)	Multidis	TAU	Chronic LBP	78/66	0.42 (0.09, 0.76)	0.42 (0.09, 0.76)	0.54 (0.08,1.01)	0.013	0.013	0	NA
Kamper, 2014‡	QoL (MCS)	Multidis	TAU	Chronic LBP	78/66	0.43 (0.09, 0.76)	0.43 (0.09, 0.76)	0.32 (-0.13, 0.78)	0.012	0.012	0	NA
Kamper, 2014	QoL	Multidis	Physical	Chronic LBP	158/184	0.23 (0.02, 0.44)	0.20 (-0.12, 0.51)	0.33 (0.07, 0.58)	0.035	0.226	48	NA
Kamper, 2014	Depression	Multidis	Physical	Chronic LBP	205/206	-0.12 (-0.32,0.07)	-0.16 (-0.42, 0.09)	-0.02 (-0.38, 0.35)	0.210	0.211	33	-0.76,0.43
Kamper, 2014	Coping	Multidis	Physical	Chronic LBP	19/21	1.08 (0.40, 1.76)	1.09 (0.31, 1.87)	0.73 (-0.19, 1.64)	0.002	0.006	23	NA
Kamper, 2014	Self-efficacy	Multidis	Physical	Chronic LBP	29/29	0.22 (-0.31, 0.74)	0.26 (-0.40, 0.92)	-0.01 (-0.64, 0.63)	0.416	0.448	33	NA
Kamper, 2014	Anxiety	Multidis	Physical	Chronic LBP	26/25	-0.09 (-0.65, 0.48)	-0.40 (-1.80, 1.00)	0.22 (-0.42, 0.86)	0.764	0.575	76	NA
Norlund, 2009	Return to work	Multidis	Conservative	Subacute and chronic LBP	91/92	1.06 (0.92,1.22)	1.06 (0.92,1.22)	1.09 (0.85,1.40)	0.413	0.413	0	NA
Henschke, 2010‡	Pain intensity	Behavioural treatment + physiotherapy	Physiotherapy	LBP	29/16	-0.12 (-0.75,0.50)	-0.12 (-0.75,0.50)	-0.33 (-1.16, 0.49)	0.695	0.695	0	NA
Henschke, 2010‡	Depression	Behavioural treatment + physiotherapy	Physiotherapy	LBP	34/16	0.05 (-0.56, 0.67)	0.00 (-0.96,0.96)	0.45 (-0.35, 1.25)	0.868	0.999	58	NA
Henschke, 2010‡	Functional status	Behavioural treatment + physiotherapy	Physiotherapy	LBP	34/17	-0.18 (-0.78, 0.43)	-0.18 (-0.79,0.44)	0.09 (-0.71, 0.88)	0.570	0.571	14	NA
O'Keeffe, 2016	Disability	Physical	Physical+behavioral/psychologically informed	Chronic SP (LBP + NP)	566/640	0.11 (-0.01,0.22) #	0.12 (-0.06,0.30)	-0.09 (-0.41, 0.23)	0.074	0.181	55	-0.45,0.69
O'Keeffe, 2016‡	Pain	Physical	Physical+behavioral/psychologically informed	Chronic SP (LBP + NP)	736/799	0.06 (-0.04,0.16) #	0.06 (-0.04,0.16)	0.14 (-0.16, 0.43)	0.262	0.262	0	-0.05,0.17
Schaafsma, 2013	Time to return to work	Intense PCP	Intense PCP + CBT	Chronic LBP	93/90	0.26 (-0.50, 1.03)	0.26 (-0.50, 1.03)	0.13 (-0.85, 1.11)	0.499	0.499	0	NA
Schaafsma, 2013	Time to return to work	Intense PCP + TAU	TAU	Subacute LBP	220/227	-0.03 (-0.22, 0.15)	-0.03 (-0.41, 0.35)	0.06 (-0.22, 0.33)	0.753	0.870	75	-4.43,4.37
Schaafsma, 2013	Time to return to work	Intense PCP	Exercise	Chronic LBP	58/56	-0.22 (-0.59, 0.15)	-0.19 (-0.63, 0.24)	-0.35 (-0.78, 0.09)	0.249	0.390	21	NA
Hoffman, 2009	Pain intensity	Multidis	Active control	Chronic LBP	393	NA	0.15 (-0.29, 0.59)	NA	NA	0.510	72	NA
Hoffman, 2009	Pain interference	Multidis	Active control	Chronic LBP	408	NA	0.09 (-0.26, 0.44)	NA	NA	0.600	52	NA
Hoffman, 2009	Disability: working	Multidis	Active control	Chronic LBP	245	NA	0.36 (0.06, 0.65)	NA	NA	0.020	0	NA
Guzman, 2002	Pain rating	Less intensive (<30 h) once or twice weekly MBPSR	Control	Chronic LBP	214/175	-0.12 (-0.32, 0.08)	-0.07 (-0.50, 0.37)	-0.20 (-0.43, 0.03)	0.231	0.758	63	-1.81,1.67
Guzman, 2002	Functional status	Less intensive (<30 h) once or twice weekly MBPSR	Control	Chronic LBP	185/184	-0.08 (-0.28, 0.13)	0.12 (-0.57, 0.79)	-0.20 (-0.43, 0.02)	0.454	0.742	85	NA
Long -term outcomes (> 6 months=56)[a]												
Marin, 2017	Pain	Multidis	TAU	Subacute LBP	186/150	-0.45 (-0.67,-0.23)	-0.46 (-0.70, -0.21)	-0.20 (-0.58, 0.19)	$6.7x10^{-5}$	$2.4x10^{-4}$	17	-1.16,0.24

Marin, 2017	Disability	Multidis	TAU	Subacute LBP	128/112	-0.38 (-0.64, -0.12)	-0.44 (-0.87, -0.01)	-0.07 (-0.45, 0.32)	0.004	0.047	61	-5.07,4.20
Marin, 2017	Return-to-work	Multidis	TAU	Subacute LBP	104/66	3.19 (1.46, 6.98)	3.19 (1.46, 6.98)	2.19 (0.79, 6.05)	0.004	0.004	0	0.02,511.6
Marin, 2017	Sick leave periods	Multidis	TAU	Subacute LBP	112/98	-0.38 (-0.66, -0.10)	-0.37 (-0.73,-0.02)	-0.55 (-0.94, -0.17)	0.007	0.038	41	NA
Marin, 2017	Pain	Multidis	Other treatment	Subacute LBP	165/171	-0.14 (-0.36, 0.07)	-0.14 (-0.36, 0.07)	-0.08 (-0.34, 0.17)	0.203	0.203	0	NA
Marin, 2017	Disability	Multidis	Other treatment	Subacute LBP	170/175	-0.03 (-0.24, 0.18)	-0.03 (-0.24, 0.18)	-0.02 (-0.27, 0.24)	0.745	0.745	0	NA
Marin, 2017	Sick leave days	Multidis	Other treatment	Subacute LBP	67/91	-0.18 (-0.49, 0.14)	-0.25 (-0.98, 0.47)	0.10 (-0.31, 0.50)	0.282	0.498	79	NA
Kamper, 2014	Pain	Multidis	TAU	Chronic LBP	448/473	-0.20 (-0.34, -0.07)	-0.21 (-0.37,-0.04)	-0.32 (-0.60,-0.04)	0.004	0.013	26	-0.57,0.15
Kamper, 2014	Disability	Multidis	TAU	Chronic LBP	398/324	-0.22 (-0.37,-0.08)	-0.23 (-0.40,-0.06)	-0.10 (-0.38, 0.17)	0.003	0.007	19	-0.60,0.13
Kamper, 2014	Work	Multidis	TAU	Chronic LBP	705/655	1.05 (0.81,1.37)	1.04 (0.73,1.47)	1.07 (0.71,1.61)	0.714	0.835	31	0.47, 2.31
Kamper, 2014	Pain	Multidis	Physical	Chronic LBP	435/437	-0.29 (-0.43,-0.15)	-0.51 (-1.04,0.01)	-0.17 (-0.42,0.08)	$3.7x10^{-5}$	0.057	92	-2.41,1.39
Kamper, 2014	Disability	Multidis	Physical	Chronic LBP	602/567	-0.23 (-0.35,-0.11)	-0.68 (-1.19, -0.16)	-0.25 (-0.48,-0.02)	$2.1x10^{-4}$	0.010	94	-2.58,1.23
Kamper, 2014	Work	Multidis	Physical	Chronic LBP	528/478	1.87 (1.39, 2.53)	1.87 (1.39, 2.53)	1.69 (0.84, 3.42)	$4.2x10^{-5}$	$4.2x10^{-5}$	0	1.29, 2.73
Kamper, 2014	Pain	Multidis	Surgery	Chronic LBP	197/188	-0.23 (-0.43,-0.02)¤	-0.25 (-0.53, 0.04)	-0.12 (-0.37, 0.13)	0.028	0.087	47	NA
Kamper, 2014	Disability	Multidis	Surgery	Chronic LBP	212/ 211	0.21 (0.02,0.40)	0.25 (-0.08, 0.57)	0.10 (-0.13, 0.33)	0.031	0.142	62	NA
Kamper, 2014	Catastrophising	Multidis	TAU	Chronic LBP	73/54	-0.40 (-0.76, -0.05)	-0.40 (-0.76, -0.05)	-0.49 (-0.88, -0.09)	0.026	0.026	0	NA
Kamper, 2014	Fear avoidance	Multidis	TAU	Chronic LBP	192/179	-0.29 (-0.49, -0.08)	-0.29 (-0.49, -0.08)	-0.32 (-0.57, -0.06)	0.005	0.005	0	-1.62,1.04
Kamper, 2014	Healthcare visits	Multidis	Physical	Chronic LBP	114/112	-0.06 (-0.32, 0.20)	-0.06 (-0.32, 0.20)	0.04 (-0.32, 0.40)	0.631	0.631	0	NA
Kamper, 2014	Depression	Multidis	Physical	Chronic LBP	242/264	0.01 (-0.17,0.18)	-0.05 (-0.40, 0.30)	-0.08 (-0.34, 0.17)	0.948	0.784	66	-1.18,1.08
Kamper, 2014	Coping	Multidis	Physical	Chronic LBP	120/142	0.30 (0.06, 0.54)	0.30 (0.06, 0.54)	0.28 (0.03, 0.54)	0.016	0.016	0	NA
Kamper, 2014	QoL (PCS)	Multidis	Surgery	Chronic LBP	197/188	-0.23 (-0.43,-0.02)¤	-0.28 (-0.70, 0.14)	-0.08 (-0.33, 0.17)	0.025	0.193	75	NA
Kamper, 2014	QoL (MCS)	Multidis	Surgery	Chronic LBP	197/188	-0.02 (-0.22, 0.18)	-0.03 (-0.25, 0.19)	0.06 (-0.19, 0.31)	0.814	0.797	13	NA
Steffens, 2016	Episode of LBP	Exercise +education	Control	LBP (prevention)	68/70	0.73 (0.55,0.96)	0.73 (0.55,0.96)	0.70 (0.50-0.99)	0.010	0.010	0	NA
Steffens, 2016	Sick Leave	Exercise + education	Control	LBP (prevention)	68/70	0.72 (0.48-1.08)	0.72 (0.48,-1.08)	0.63 (0.36-1.11)	0.101	0.101	0	NA
O'Keeffe, 2016	Disability	Physical	Physical+behavioral/psychologically informed	Chronic SP (LBP + NP)	555/ 634	0.23 (0.11,0.34) #	0.25 (0.07,0.43) #	-0.09 (-0.40,0.23)	$1.8x10^{-4}$	0.005	54	-0.31,0.81
O'Keeffe, 2016‡	Pain	Physical	Physical+behavioral/psychologically informed	Chronic SP (LBP + NP)	681/772	0.17 (0.06,0.28) #	0.18 (0.04,0.32) #	0.13(-0.18,0.44)	0.002	0.009	36	-0.20,0.56
Schaafsma, 2013	Time to return to work	Intense PCP	Intense PCP + CBT	Chronic LBP	244/245	0.05 (-0.30, 0.40)	0.13 (-0.43, 0.69)	-0.02 (-0.39, 0.35)	0.775	0.650	29	NA
Schaafsma, 2013	Proportion off work	Intense PCP	Exercise	Subacute LBP	157/144	0.63 (0.40, 0.99)	0.57 (0.25, 0.89)	0.48 (0.26,0.89)	0.045	$4.8x10^{-4}$	27	NA
Schaafsma, 2013	Time to return to work (12 mo)	Intense PCP + TAU	TAU	Subacute LBP	193/202	-0.19 (-0.39, 0.01)	-0.23 (-0.67, 0.21)	-0.37(-0.71, -0.03)	0.063	0.299	78	-2.17,1.70
Schaafsma, 2013	Time to return to work (>12 mo)	Intense PCP + TAU	TAU	Subacute LBP	118/119	-0.39 (-0.76, -0.02)	-0.39 (-0.76, -0.02)	-0.33 (-1.47, 0.81)	0.037	0.037	0	NA
Schaafsma, 2013	Time to return to work	Intense PCP	TAU	Chronic LBP	663/ 648	-0.23 (-0.42, -0.03)	-0.23 (-0.42, -0.03)	-0.03 (-0.44, 0.38)	0.022	0.022	0	-0.54,0.09

	(12 mo)											
Schaafsma, 2013	Time to return to work (24 mo)	Intense PCP	TAU	Chronic LBP	318/313	-0.21 (-0.44, 0.02)	-0.26 (-0.61, 0.10)	-0.04 (-0.43, 0.35)	0.075	0.159	54	-3.95,3.44
Schaafsma, 2013	Time to return to work	Intense PCP	Exercise	Chronic LBP	136/120	-0.43 (-0.69, -0.18)	-0.46 (-0.96, 0.04)	-0.39 (-0.77, -0.01)	0.001	0.069	74	-6.26,5.34
Schaafsma, 2013	Time to return to work (12 mo)	Intense PCP	CBT	Chronic LBP	213/207	-0.66 (-1.03, -0.28)	-1.75 (-4.45, 0.95)	-0.46 (-0.85, -0.07)	0.001	0.203	93	NA
Schaafsma, 2013	Time to return to work (24 mo)	Intense PCP	CBT	Chronic LBP	213/207	-0.24 (-0.61, 0.13)	-0.47 (-1.36, 0.42)	-0.13 (-0.52, 0.26)	0.200	0.305	62	NA
van Middelkoop, 2011‡	Pain intensity	Multidis	NT/WL	Chronic LBP	206/202	-0.17 (-0.37, 0.02)	-0.29 (-0.81, 0.23)	-0.05 (-0.27, 0.17)	0.081	0.278	80	NA
van Middelkoop, 2011‡	Disability	Multidis	NT/WL	Chronic LBP	206/202	-0.02 (-0.22,0.17)	-0.02 (-0.22,0.17)	-0.07 (-0.29, 0.16)	0.803	0.803	0	NA
van Middelkoop, 2011‡	Pain intensity	Multidis	Active control	Chronic LBP	202/192	-0.18 (-0.38, 0.02)	-0.13 (-0.48, 0.21)	-0.28 (-0.51, -0.04)	0.074	0.444	56	NA
Hoffman, 2009	Disability: working	Multidis	Active control	Chronic LBP	609	NA	0.53 (0.19, 0.86)	NA	NA	0.030	66	NA
Guzman, 2002	Pain rating (24 mo)	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	90/77	-0.39 (-0.70,-0.08)	-0.43 (-0.97, 0.21)	-0.18 (-0.57,0.21)	0.013	0.114	65	NA
Guzman, 2002	Pain rating (60 mo)	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	83/71	-0.21 (-0.53, 0.10)	-0.24 (-0.24,0.76)	0.00 (-0.42, 0.42)	0.191	0.351	58	NA
Guzman, 2002	Functional status (12 mo)	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	187/169	-0.38 (-0.59,-0.17)	-0.53 (-1.11,0.05)	-0.27 (-0.50, -0.03)	$4.8x10^{-4}$	0.076	78	NA
Guzman, 2002	Functional status (24 mo)	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	90/77	-0.18 (-0.49, 0.13)	-0.27 (-1.14, 0.60)	0.16 (-0.23, 0.55)	0.250	0.542	87	NA
Guzman, 2002	Functional status (60 mo)	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	83/21	-0.76 (-1.09,-0.43)	-0.79 (-1.29, -0.29)	-0.56 (-0.99,-0.14)	$6.1x10^{-6}$	0.002	54	NA
Guzman, 2002	Employment status (12 mo)	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	190/172	0.34 (0.16, 0.74)	0.34 (0.16, 0.74)	0.53 (0.16, 1.77)	0.007	0.007	0	NA
Guzman, 2002	Employment status (24 mo)	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	90/77	0.80 (0.56,1.15)	0.69 (0.31,1.53)	0.98 (0.65, 1.47)	0.231	0.358	73	NA
Guzman, 2002	Employment status (60 mo)	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	83/71	0.76 (0.54,1.07)	0.72 (0.40,1.32)	0.96 (0.62, 1.47)	0.112	0.291	66	NA
Guzman, 2002	Days on sickness leave (12 mo)	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	399/383	-0.13 (-0.27,0.01)	-0.13 (-0.27,0.01)	-0.17 (-0.36, 0.02)	0.071	0.071	0	-1.04,0.78
Guzman, 2002	Days on sickness leave (24 mo)	Intensive (>100h) daily Multidis with functional restoration	Control	Chronic LBP	299/288	-0.24 (-0.40,-0.07)	-0.32 (-0.66, 0.02)	-0.14 (-0.34, 0.05)	0.005	0.062	64	-4.06, 3.42
Guzman, 2002	Pain rating	Less intensive (<30 h) once or twice weekly	Control	Chronic LBP	188/177	0.15 (-0.05, 0.36)	0.13 (-0.25, 0.51)	0.14 (-0.10, 0.38)	0.149	0.496	53	-3.85,4.11

	(12 mo)	MBPSR										
Guzman, 2002	Pain rating (24-30 mo)	Less intensive (<30 h) once or twice weekly MBPSR	Control	Chronic LBP	165/155	0.17 (-0.05,0.39)	0.17 (-0.05,0.39)	0.12 (-0.13, 0.36)	0.141	0.141	0	NA
Guzman, 2002	Functional status (12 mo)	Less intensive (<30 h) once or twice weekly MBPSR	Control	Chronic LBP	167/164	0.22 (0.00,0.43)¤	0.32 (-0.13,0.75)	0.13 (-0.11, 0.37)	0.048	0.170	63	NA
Guzman, 2002	Functional status (24-30 mo)	Less intensive (<30 h) once or twice weekly MBPSR	Control	Chronic LBP	165/155	0.16 (-0.06,0.38)	0.18 (-0.09,0.45)	0.10 (-0.14, 0.35)	0.156	0.195	18	NA
Guzman, 2002	Employment status (54-60 mo)	Less intensive (<30 h) once or twice weekly MBPSR	Control	Chronic LBP	160/189	1.03 (0.74,1.43)	1.03 (0.74,1.43)	0.83 (0.41, 1.65)	0.884	0.884	0	NA
Guzman, 2002	Pain rating (12 mo)	Other types of MBPSR	Control	Chronic LBP	237/205	0.00 (-0.18,0.19)	0.00 (-0.18,0.19)	-0.05 (-0.28, 0.18)	0.982	0.982	0	NA
Guzman, 2002	Functional status (12 mo)	Other types of MBPSR	Control	Chronic LBP	237/205	-0.14 (-0.32,0.05)	-0.14 (-0.32,0.05)	-0.18 (-0.42, 0.05)	0.154	0.154	0	NA

Abbreviations: CBT: cognitive behavioural treatment; QoL: quality of life; PCS: physical component summary; MCS: mental component summary; LBP: low back pain; mo: months; NP: neck pain; SP: spinal pain; Multidis: multidisciplinary program; MBPSR: multidisciplinary bio-psychosocial rehabilitation programs; PCP: physical conditioning program; NT: no treatment; WL: waiting list; TAU: treatment as usual; CI: confidence interval; Control: not specified control group; NA: Not applicable, because only two studies were available or information on included studies was not provided. NP: not pertinent, because the expected number of statistically significant studies is larger than the observed. Prediction intervals and egger tests are reported only for meta-analyses including at least 3 studies.

§ Fixed effects refer to summary effect (95%CI) using the fixed-effects model

§§ Random effects refer to summary effect (95% CI) using the random-effects model.

† Effect size and 95% confidence interval of the largest study (smallest SE) in each meta-analysis.

¶ P value of summary fixed effects estimate.

|| P value of summary random effects estimate.

¤¤ Expected number of statistically significant studies using the point estimate of the largest study (smallest standard error) as the plausible effect size.

** Observed/Expected number of statistically significant studies

‡ On these comparisons MD is reported, instead of SMD.

¤ Favour control

Favour control but in these meta-analyses the control group was a multidisciplinary program (MMRP).

[a] We used the actual categorization .....Outcomes measured at post- treatment and closest to three months were considered short-term follow-up, outcomes measured above three months and closest to six months were considered medium-term follow-up, and outcomes measured above six months were considered long-term follow-up.

Table SVII Description of the 82 associations with non-significant evidence

Author, Year	Outcome	Sample size (total N)	Pain condition	Intervention/ Control	Significance threshold reached (under the random-effects model) †	95% prediction interval rule	Estimate of heterogeneity*	Small-study effects or excess significance bias	Random-effect s
Meta analyses with non-significant evidence [a]									
Short term outcomes (≤3 months)									
Marin, 2017	Pain	<350	Subacute LBP	Multidis vs Other treatment	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.09 (-0.50
Marin, 2017	Disability	<350	Subacute LBP	Multidis vs Other treatment	>0.05	NA	Not Large	No excess/ Small-study effects NA	0.00 (-0.34 t
Kamper, 2014	Work	>350 but <500	Chronic LBP	Multidis vs TAU	>0.05	NA	Not Large	No excess/ Small-study effects NA	1.07 (0.60 to
Kamper, 2014	Work	>350 but <500	Chronic LBP	Multidis vs Physical	>0.05	Including the null value	Not Large	Neither	1.60 (0.92 to
Kamper, 2014‡	QoL (PCS)	<350	Chronic LBP	Multidis vs TAU	>0.05	NA	Very large	No excess/ Small-study effects NA	0.70 (-0.05 t
Kamper, 2014	Fear avoidance	<350	Chronic LBP	Multidis vs TAU	>0.05	NA	Large	No excess/ Small-study effects NA	-0.69 (-1.52
Kamper, 2014	QoL	500-1000	Chronic LBP	Multidis vs Physical	>0.05	Including the null value	Large	Neither	-0.04 (-0.34
Kamper, 2014	Depression	500-1000	Chronic LBP	Multidis vs Physical	>0.05	Including the null value	Not Large	Neither	0.05 (-0.12
Kamper, 2014	Coping	<350	Chronic LBP	Multidis vs Physical	>0.05	Including the null value	Not Large	Small-study effects	0.22 (-0.02
Kamper, 2014	Self-efficacy	>350 but <500	Chronic LBP	Multidis vs Physical	>0.05	Including the null value	Large	**Excess significance bias**	0.27 (-0.08 t
Kamper, 2014	Anxiety	>350 but <500	Chronic LBP	Multidis vs Physical	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.10 (-0.67
Kamper, 2014	Depression	<350	Chronic LBP	Multidis vs WL	>0.05	Including the null value	Not Large	**Excess significance bias**	-0.21 (-0.59
Steffens, 2016	Sick Leave	<350	LBP (prevention)	Exercise+education vs Control	>0.05	Including the null value	Not Large	Neither	0.74 (0.44 to
O'Keeffe, 2016	Pain	500-1000	Chronic LBP +NP	Physical vs Physical+behavioral/ psychologically informed	>0.05	Including the null value	Large	Neither	0.21 (-0.04 t
Monticone, 2015	Pain	<350	Chronic NP	CBT+physical vs Physical	>0.05	Including the null value	Not Large	Neither	-0.36 (-0.73
Monticone, 2015	Disability	<350	Chronic NP	CBT+physical vs Physical	>0.05	Including the null value	Large	Neither	-0.10 (-0.56
Henschke, 2010	Pain intensity	<350	LBP	Behavioural treatment + physiotherapy vs Physiotherapy	>0.05	NA	Large	No excess/ Small-study effects NA	-0.16 (-1.27
Henschke, 2010	Depression	<350	LBP	Behavioural treatment + physiotherapy vs Physiotherapy	>0.05	NA	Not Large	No excess/ Small-study effects NA	0.12 (-0.46 t
Henschke, 2010‡	Functional status	<350	LBP	Behavioural treatment + physiotherapy vs Physiotherapy	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.56 (-1.15
Henschke, 2010	Pain intensity	>350 but <500	LBP	Behavioural treatment + inpatient rehabilitation vs Inpatient rehabilitation	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.15 (-0.34
Hoffman, 2009	Pain intensity	<350	Chronic LBP	Multidis vs Active control	>0.05	NA	Not Large		0.12 (-0.13 t

									NA
Guzman, 2002	Days on sickness leave	500-1000	Chronic LBP	Intensive (>100h) daily Multidis with functional restoration vs Control	>0.05	Including the null value	Very large	**Excess significance bias**	-0.45 (-1.29
Guzman, 2002	Pain rating	<350	Chronic LBP	Less intensive (<30 h) once or twice weekly MBPSR vs Control	>0.05	Including the null value	Large	**Excess significance bias**	-0.22 (-0.89
Medium term outcomes (>3 months and ≤6 months)									
Marin, 2017	Pain	<350	Subacute LBP	Multidis vs TAU	>0.05	NA	Large	**Excess significance bias**	-0.34 (-1.00
Marin, 2017	Disability	<350	Subacute LBP	Multidis vs TAU	>0.05	NA	Large	**Excess significance bias**	-0.44 (-1.09
Marin, 2017	Pain	<350	Subacute LBP	Multidis vs Other treatment	>0.05	NA	Large	No excess/ Small-study effects NA	-0.64 (-1.85
Marin, 2017	Disability	<350	Subacute LBP	Multidis vs Other treatment	>0.05	NA	Very large	**Excess significance bias** /Small-study effects NA	-0.49 (-1.50
Kamper, 2014	Work	>350 but <500	Chronic LBP	Multidis vs TAU	>0.05	Including the null value	Very large	Neither	1.60 (0.52 to
Kamper, 2014	Disability	500-1000	Chronic LBP	Multidis vs Physical	>0.05	Including the null value	Large	Neither	-0.21 (-0.48
Kamper, 2014	QoL	<350	Chronic LBP	Multidis vs Physical	>0.05	NA	Not Large	No excess/ Small-study effects NA	0.20 (-0.12
Kamper, 2014	Depression	>350 but <500	Chronic LBP	Multidis vs Physical	>0.05	Including the null value	Not Large	Small-study effects	-0.16 (-0.42
Kamper, 2014	Self-efficacy	<350	Chronic LBP	Multidis vs Physical	>0.05	NA	Not Large	No excess/ Small-study effects NA	0.26 (-0.40
Kamper, 2014	Anxiety	<350	Chronic LBP	Multidis vs Physical	>0.05	NA	Very large	No excess/ Small-study effects NA	-0.40 (-1.80
Norlund, 2009	Return to work	<350	Subacute and chronic LBP	Multidis vs Conservative	>0.05	NA	Not Large	No excess/ Small-study effects NA	1.06 (0.92 to
Henschke, 2010‡	Pain intensity	<350	LBP	Behavioural treatment + physiotherapy vs Physiotherapy	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.12 (-0.75
Henschke, 2010‡	Depression	<350	LBP	Behavioural treatment + physiotherapy vs Physiotherapy	>0.05	NA	Large	No excess/ Small-study effects NA	0.00 (-0.96 t
Henschke, 2010‡	Functional status	<350	LBP	Behavioural treatment + physiotherapy vs Physiotherapy	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.18 (-0.79
O'Keeffe, 2016	Disability	>1000	Chronic LBP + NP	Physical vs Physical+behavioral/ psychologically informed	>0.05	Including the null value	Large	Neither	0.12 (-0.06 t
O'Keeffe, 2016‡	Pain	>1000	Chronic LBP + NP	Physical vs Physical+behavioral/ psychologically informed	>0.05	Including the null value	Not Large	Neither	0.06 (-0.04 t
Schaafsma, 2013	Time to return to work	<350	Chronic LBP	Intense PCP vs Intense PCP + CBT	>0.05	NA	Not Large	No excess/ Small-study effects NA	0.26 (-0.50 t
Schaafsma, 2013	Time to return to work	>350 but <500	Subacute LBP	Intense PCP + TAU vs TAU	>0.05	Including the null value	Very large	**Excess significance bias**	-0.03 (-0.41
Schaafsma, 2013	Time to return to work	<350	Chronic LBP	Intense PCP vs Exercise	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.19 (-0.63
Hoffman, 2009	Pain intensity	>350 but <500	Chronic LBP	Multidis vs Active control	>0.05	NA	Large	NA	0.15 (-0.29 t
Hoffman, 2009	Pain interference	>350 but <500	Chronic LBP	Multidis vs Active control	>0.05	NA	Large	NA	0.09 (-0.26 t
Guzman, 2002	Pain rating	>350 but <500	Chronic LBP	Less intensive (<30 h) once or twice weekly MBPSR vs Control	>0.05	Including the null value	Large	Neither	-0.07 (-0.50
Guzman, 2002	Functional status	>350 but <500	Chronic LBP	Less intensive (<30 h) once or twice weekly MBPSR vs Control	>0.05	NA	Very large	No excess/ Small-study effects NA	0.12 (-0.57 t
Long- term outcomes (> 6 months)									
Marin, 2017	Pain	<350	Subacute LBP	Multidis vs Other treatment	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.14 (-0.36
Marin, 2017	Disability	<350	Subacute LBP	Multidis vs Other treatment	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.03 (-0.24

Marin, 2017	Sick leave days	<350	Subacute LBP	Multidis vs Other treatment	>0.05	NA	Very large	**Excess significance bias**	-0.25 (-0.98
Kamper, 2015	Work	>1000	Chronic LBP	Multidis vs TAU	>0.05	Including the null value	Not Large	Neither	1.04 (0.73 t
Kamper, 2015	Pain	500-1000	Chronic LBP	Multidis vs Physical	>0.05	Including the null value	Very large	Neither	-0.51 (-1.04
Kamper, 2014	Pain	>350 but <500	Chronic LBP	Multidis vs Surgery	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.25 (-0.53
Kamper, 2014	Disability	>350 but <500	Chronic LBP	Multidis vs Surgery	>0.05	NA	Large	**Excess significance bias**	0.25 (-0.08 t
Kamper, 2014	Healthcare visits	<350	Chronic LBP	Multidis vs Physical	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.06 (-0.32
Kamper, 2014	Depression	500-1000	Chronic LBP	Multidis vs Physical	>0.05	Including the null value	Large	Neither	-0.05 (-0.40
Kamper, 2014	QoL (PCS)	>350 but <500	Chronic LBP	Multidis vs Surgery	>0.05	NA	Very large	**Excess significance bias**	-0.28 (-0.70
Kamper, 2014	QoL (MCS)	>350 but <500	Chronic LBP	Multidis vs Surgery	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.03 (-0.25
Steffens, 2016	Sick Leave	<350	LBP (prevention)	Exercise + education vs Control	>0.05	NA	Not Large	No excess/ Small-study effects NA	0.72 (0.48 t
Schaafsma, 2013	Time to return to work	>350 but <500	Chronic LBP	Intense PCP vs Intense PCP + CBT	>0.05	NA	Not Large	No excess/ Small-study effects NA	0.13 (-0.43 t
Schaafsma, 2013	Time to return to work (12 mo)	>350 but <500	Subacute LBP	Intense PCP + TAU vs TAU	>0.05	Including the null value	Very large	Neither	-0.23 (-0.67
Schaafsma, 2013	Time to return to work (24 mo)	500-1000	Chronic LBP	Intense PCP + TAU vs TAU	>0.05	Including the null value	Large	**Excess significance bias**	-0.26 (-0.61
Schaafsma, 2013	Time to return to work	<350	Chronic LBP	Intense PCP vs Exercise	>0.05	Including the null value	Large	Neither	-0.46 (-0.96
Schaafsma, 2013	Time to return to work (12 mo)	>350 but <500	Chronic LBP	Intense PCP vs CBT	>0.05	NA	Very large	No excess/ Small-study effects NA	-1.75 (-4.45
Schaafsma, 2013	Time to return to work (24 mo)	>350 but <500	Chronic LBP	Intense PCP vs CBT	>0.05	NA	Large	No excess/ Small-study effects NA	-0.47 (-1.36
van Middelkoop, 2011‡	Pain intensity	>350 but <500	Chronic LBP	Multidis vs NT/WL	>0.05	NA	Very large	**Excess significance bias**	-0.29 (-0.81
van Middelkoop, 2011‡	Disability	>350 but <500	Chronic LBP	Multidis vs NT/WL	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.02 (-0.22
van Middelkoop, 2011‡	Pain intensity	>350 but <500	Chronic LBP	Multidis vs Active control	>0.05	NA	Large	No excess/ Small-study effects NA	-0.13 (-0.48
Guzman, 2002	Pain rating 24 mo	<350	Chronic LBP	Intensive (>100h) daily Multidis with functional restoration vs Control	>0.05	NA	Large	No excess/ Small-study effects NA	-0.43 (-0.97
Guzman, 2002	Pain rating (60 mo)	<350	Chronic LBP	Intensive (>100h) daily Multidis with functional restoration vs Control	>0.05	NA	Large	**Excess significance bias**	-0.24 (-0.24
Guzman, 2002	Functional status (12 mo)	>350 but <500	Chronic LBP	Intensive (>100h) daily Multidis with functional restoration vs Control	>0.05	NA	Very large	**Excess significance bias**	-0.53 (-1.11
Guzman, 2002	Functional status (24 mo)	<350	Chronic LBP	Intensive (>100h) daily Multidis with functional restoration vs Control	>0.05	NA	Very large	No excess/ Small-study effects NA	-0.27 (-1.14
Guzman, 2002	Employment status (24 mo)	<350	Chronic LBP	Intensive (>100h) daily Multidis with functional restoration vs Control	>0.05	NA	Large	**Excess significance bias**	0.69 (0.31 t
Guzman, 2002	Employment status (60 mo)	<350	Chronic LBP	Intensive (>100h) daily Multidis with functional restoration vs Control	>0.05	NA	Large	**Excess significance bias**	0.72 (0.40 t
Guzman, 2002	Days on sickness leave (12 mo)	500-1000	Chronic LBP	Intensive (>100h) daily Multidis with functional restoration vs Control	>0.05	Including the null value	Not Large	Neither	-0.13 (-0.27
Guzman, 2002	Days on sickness leave (24 mo)	500-1000	Chronic LBP	Intensive (>100h) daily Multidis with functional restoration vs Control	>0.05	Including the null value	Large	Neither	-0.32 (-0.66

Guzman, 2002	Pain rating (12 mo)	>350 but <500	Chronic LBP	Less intensive (<30 h) once or twice weekly MBPSR vs Control	>0.05	Including the null value	Large	Neither	0.13 (-0.25 t
Guzman, 2002	Pain rating (24-30 mo)	<350	Chronic LBP	Less intensive (<30 h) once or twice weekly MBPSR vs Control	>0.05	NA	Not Large	No excess/ Small-study effects NA	0.17 (-0.05 t
Guzman, 2002	Functional status (12 mo)	<350	Chronic LBP	Less intensive (<30 h) once or twice weekly MBPSR vs Control	>0.05	NA	Large	No excess/ Small-study effects NA	0.32 (-0.13 t
Guzman, 2002	Functional status (24-30 mo)	<350	Chronic LBP	Less intensive (<30 h) once or twice weekly MBPSR vs Control	>0.05	NA	Not Large	No excess/ Small-study effects NA	0.18 (-0.09 t
Guzman, 2002	Employment status (54-60 mo)	<350	Chronic LBP	Less intensive (<30 h) once or twice weekly MBPSR vs Control	>0.05	NA	Not Large	No excess/ Small-study effects NA	1.03 (0.74 t
Guzman, 2002	Pain rating (12 mo)	>350 but <500	Chronic LBP	Other types of MBPSR vs Control	>0.05	NA	Not Large	No excess/ Small-study effects NA	0.00 (-0.18 t
Guzman, 2002	Functional status (12 mo)	>350 but <500	Chronic LBP	Other types of MBPSR vs Control	>0.05	NA	Not Large	No excess/ Small-study effects NA	-0.14 (-0.32

Abbreviations: CBT: cognitive behavioural treatment; QoL: quality of life; PCS: physical component summary; MCS: mental component summary; LBP: low back pain; mo: months; NP: neck pain; Multidis: multidisciplinary program; MBPSR: multidisciplinary bio-psychosocial rehabilitation programs; PCP: physical conditioning program; WL: waiting list; TAU: treatment as usual; CI: confidence interval; Control: not specified control group; NA: Not applicable, because only two studies were available or information on included studies was not provided.

* Heterogeneity was categorized as not large (I^2<50%), large (I^2≥50% but I^2<75%), and very large (I^2≥75%).

‡ On these comparisons MD is reported, instead of SMD.

† Random effects refer to summary effect (95% CI) using the random-effects model.

[a]Non-significant evidence: all summary ES per random-effects model with P>0.05.