



Evidence Search results

Search topic:	What is the impact of fatigue interventions in multiple sclerosis population
Date requested:	12/03/2026
Date completed:	15/04/2026
Search completed by:	Kate Parr
Number of results selected:	36
Time taken:	8 hours

Citing this evidence search

If you reference this search in any paper, publication or presentation, please let us know and use the following format:

Parr, K., (2026). *Evidence summary: What is the impact of fatigue interventions in multiple sclerosis population*. Taunton, UK: Somerset NHS Foundation Trust Knowledge & Library Service.

Summary of results

Please find below a list of articles, arranged by type and in reverse-chronological order. Where the article link is embedded in the title, you should be able to access full text with your Open Athens account; however if the link is presented separately this indicates that we do not have full text access. If you follow the link, you will be presented with an option to request this item which will alert my colleagues in the library to request it for you.

No age range was specified in the original enquiry: all of the results included here focus on adults, with a small number focussing on older adults. You've requested examples of other [projects](#) and products, so I have listed these first, and most of the have contact details which you can follow up. A notable absence from my search has been projects focussing on a practical business plan or the economic impact of interventions. [Tosh's](#) study (2014) has been included as the only one to look at cost-effectiveness, even though it sits outside the usual 10-year timeframe.

A number of studies looked at the disparity between an objectively measurable level of fatigue and the patients' own perception of their fatigue. [Loy](#) (2017), [Luo](#) (2024) and [Van Geel](#) (2021) found correlations between functional fatigue and perceived fatigue, speaking to the psychological component of fatigue in MS sufferers. This theme was carried further by [Abonie](#) (2021) who looked at MS sufferers who may be 'inappropriately using activity pacers as a reactionary response' to their symptoms. This was the only study to identify potentially negative outcomes of fatigue interventions.



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The remainder of the studies were generally split between psychological interventions, and exercise-based interventions. In the former, [Strathdee](#) (2026), [Ghajarzadeh](#) (2025) and [Moore](#) (2022) all identified depression as a likely predictor of higher levels of fatigue, which could lead to lower physical activity, mobility and psychological well-being. They concluded interventions around depression were necessary for MS sufferers to maintain good quality of life.

Two systematic reviews were undertaken just this year looking at physical activity interventions: [Leaviss](#) (2026) looked at combinations of physical activity and CBT-based therapies with positive results, and with [Chen](#) (2026) looking specifically at Respiratory Muscle Training, though their results, particularly on perceived fatigue were less encouraging. A number of studies focused on niche activities: [Kaplan](#) (2026) studied the impact of laughter yoga; [Fakolade](#) (2023) looked at dyadic behaviour change intervention; [Zheng](#) (2026) studied the impact of a remotely delivered exercise program in older adults.

Remote interventions are popular, and while many studies found a positive correlation between use and fatigue levels ([Alageel](#) (2026), [D'hooqhe](#) (2018) [Van Kessel](#) (2016)), [Plow](#) (2026) identified that although remote options improve accessibility, there are 'trade-offs', particularly for individuals with complex needs.

I hope this is helpful. Please contact the Library if you would like any further information or would like to revise your search: library@somersetft.nhs.uk.

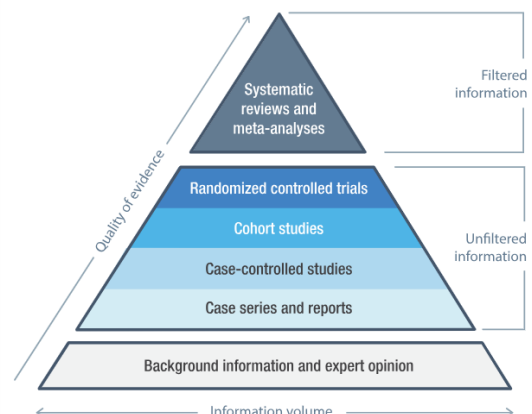
We would like to capture information about the impact this evidence search has had on your practice or decision—making. We can use this to promote this service to others within the Trust and it also ensures this service continues to develop and meet the needs of everyone who uses it. Please take a few moments to complete our short [impact survey](#).

Search results

Full-text access:

Abstracts are provided where available. To check if the full-text of an article is available, click on the links provided and log in with your NHS OpenAthens username and password, if prompted. You can register for an NHS OpenAthens username and password at: <https://openathens.nice.org.uk>. If there is no link, or the full-text is not available to you, please send the details of the article to library@somersetft.nhs.uk or and we will try and find it for you.

For your information, and to help you assess the quality of the research, here is a [hierarchy of the quality of evidence](#) that you may find useful:





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- [Relevant Projects & Products](#)
- [Systematic Reviews & Meta-Analyses](#)
- [Studies & Trials](#)
- [Reports & Opinion](#)

Relevant Projects & Products

- [Facets: a fatigue management group](#) from University College London Hospitals
- [Refuel fatigue management app](#) from The Multiple Sclerosis Society
- [Asian MS](#) culturally sensitive services for Asian people with MS, and their friends and family
- [BrAMS](#): Bristol & Avon Multiple Sclerosis Centre
- [MS Energise app](#) for fatigue management
- [CaféMS Trial](#) looking at developing a novel therapy to treat fatigue in MS
- [A feasibility randomised controlled trial of peer coaching for adults with long term conditions](#) from Torbay & South Devon NHS Trust





Systematic Reviews & Meta-Analyses

[Effectiveness of non-pharmacological interventions for fatigue in long term conditions: systematic review and network meta-analysis](#)

Authors: Leaviss, Joanna; Forsyth, Jessica E.; Booth, Andrew; Coyle, David; Daly, George; Davis, Sarah; Dawes, Helen; Deary, Vincent; Dwivedi, Kritica; Fryer, Kate; McCormick, Samantha; Martyn-St James, Marissa; Newton, Julia; Ren, Shijie; Rooney, Gillian; Sutton, Anthea; Mon-Yee, Mon and Burton, Christopher

Publication Date: 2026

Journal: BMJ Medicine 5(1), pp. e001746

Abstract: Objective: To assess the clinical effectiveness of non-pharmacological interventions for fatigue in adults with long term medical conditions.; Design: Systematic review and network meta-analysis.; Data Sources: Medline, Embase, CINAHL, APA PsycInfo, Web of Science Core Collection, and the Cochrane Central Register of Controlled Trials, from database inception to 28 September-3 October 2023, and updated 23-24 September 2024.; Eligibility Criteria for Selecting Studies: Randomised controlled trials of non-pharmacological interventions for fatigue in long term medical conditions where fatigue was a criterion for inclusion, the primary target of the intervention, or the primary or co-primary outcome. Excluded were studies of fatigue in people with cancer, in relation to or after infection, or resulting from injuries or developmental disorders. Studies were limited to European-style healthcare systems.; Results: 88 randomised controlled trials were included, comprising 6636 participants for the end of treatment analyses, 1849 participants for the short term (≤ 3 months after the end of treatment) analyses, and 2322 participants for the long term (> 3 months) analyses, allocated to one of 27 interventions. The most common condition studied was multiple sclerosis (51 studies). A range of interventions were identified, and heterogeneity was found within intervention groups and between individual interventions. Interventions varied by duration, delivery methods, and intensity. Compared with usual care, interventions based on cognitive behavioural therapy (CBT) significantly reduced fatigue at the end of treatment (standardised mean difference -0.63, 95% credible interval (CrI) -0.87 to -0.40, 17 studies) and at the long term follow-up (-0.40, -0.63 to -0.21, nine studies). Promotion of physical activity significantly reduced fatigue at all three time points: end of treatment (standardised mean difference -0.32, 95% CrI -0.62 to -0.01, seven studies), short term (-0.51, -0.84 to -0.17, one study), and long term (-0.52, -0.86 to -0.18, two studies). Self-management focusing on energy conservation was not significantly beneficial at the end of treatment (standardised mean difference -0.20, 95% CrI -0.52 to 0.12, 10 studies) or at the short term follow-up (-0.13, -0.51 to 0.25, seven studies) but at longer term follow-up, comparable benefit with other interventions was suggested (-0.42, -0.90 to 0.09, three studies). The standard deviation of the variation between studies in the end of treatment, short term, and long term network meta-analyses indicated moderate heterogeneity of studies in each of the analyses. No significant inconsistency was detected within the networks.; Conclusions: Interventions that support individuals to increase physical activity or that are based on CBT were effective in reducing fatigue in people with long term medical conditions. The strength of the evidence was moderate to low. Although relatively few studies in any condition other than multiple sclerosis exist, the magnitude of effect seemed to be similar across different conditions.; Systematic Review Registration: PROSPERO CRD42023440141. (Copyright © Author(s) (or their employer(s)) 2026. Re-use permitted under CC BY. Published by BMJ Group.)





[Effects of Respiratory Muscle Training on Respiratory Function and Fatigue in Multiple Sclerosis: A Systematic Review and Meta-Analysis](#)

Authors: Chen, Yunji;Meng, Kun;Jiang, Guole;Xiang, Xu;Liu, Yang and Yi, Qing

Publication Date: 2026

Journal: Multiple Sclerosis and Related Disorders 107, pp. 106953

Abstract: Objective: To evaluate the effects of respiratory muscle training (RMT) on respiratory function and fatigue in individuals with multiple sclerosis (MS).; Methods: In accordance with the PRISMA 2020 guidelines, a systematic search was conducted across five electronic databases (PubMed/MEDLINE, Web of Science, Cochrane Library, SPORTDiscus, Scopus) from inception through 31 August 2025. Randomized controlled trials (RCTs) and quasi-randomized controlled trials (quasi-RCTs) that enrolled adults with MS who underwent isolated RMT (inspiratory, expiratory, or combined) for a duration of ≥ 4 weeks were included. Primary outcomes included respiratory function (e.g., maximal inspiratory pressure MIP], maximal expiratory pressure MEP], forced expiratory volume in 1 s FEV1], forced vital capacity FVC]) and fatigue (evaluated using the Fatigue Severity Scale FSS] or Modified Fatigue Impact Scale MFIS]). Data were synthesized using random- or fixed-effects models, with results expressed as standardized mean differences (SMDs) and 95% confidence intervals (CIs).; Results: Fifteen RCTs, comprising a total of 433 participants, were included. Meta-analysis revealed that RMT significantly enhanced respiratory muscle strength (MEP: SMD = 0.24, 95% CI: 0.03 to 0.45, $p = 0.03$; MIP: SMD = 0.45, 95% CI: 0.25 to 0.65, $p < 0.001$) and pulmonary function (FEV1: SMD = 0.37, 95% CI: 0.17 to 0.58, $p < 0.001$; FVC: SMD = 0.24, 95% CI: 0.04 to 0.43, $p = 0.02$). Significant reductions in fatigue were observed across all subscales of the MFIS (physical: SMD = -1.00, 95% CI: -1.53 to -0.46, $p < 0.001$; cognitive: SMD = -0.54, 95% CI: -1.05 to -0.03, $p = 0.04$; psychosocial: SMD = -0.88, 95% CI: -1.41 to -0.35, $p < 0.001$; total: SMD = -0.98, 95% CI: -1.52 to -0.43, $p < 0.001$). However, no significant improvement was observed on the FSS (SMD = -0.39, 95% CI: -1.10 to 0.33, $p = 0.29$).; Conclusion: RMT may serve as an effective intervention for improving respiratory muscle strength, pulmonary function, and functional fatigue in individuals with MS. Nonetheless, its effect on perceived fatigue severity appears limited. These findings support the incorporation of RMT into MS rehabilitation programs. Further robust studies with standardized training protocols are warranted to confirm its long-term benefits. (Copyright © 2025. Published by Elsevier B.V.)

[Effect of different exercise types on physical function and psychological status in females with multiple sclerosis: A network meta-analysis](#)

Authors: Wang, Yutong;Li, Liang;Liu, Chen and Fan, Tonggang

Publication Date: 2026

Journal: Multiple Sclerosis and Related Disorders 108, pp. 107036

Abstract: Background: As a therapeutic approach, physical activity can serve as a rehabilitation method for females with multiple sclerosis. However, the optimal exercise type remains unclear. This study aims to evaluate the effects of six distinct training programs on the physical function and psychological state of females with multiple sclerosis, thereby providing foundational guidance for rehabilitation treatment in this population.; Method: In September 2025, a comprehensive literature search was conducted across seven major databases (Embase, PubMed, Web of Science, Cochrane Library, Wanfang, CNKI, and CQVIP) to identify randomized controlled trials to study how physical activity interventions





affect the physical function and psychological status in females with multiple sclerosis. These studies were subsequently analyzed through a frequency-based network meta-analysis framework.; Results: We conducted a systematic review analyzing 16 studies involving 579 participants. Among the six exercise modalities tested in the intervention groups, all demonstrated statistically significant efficacy compared to the control groups. However, pairwise comparisons between different exercise categories revealed minimal differences. Using the surface under the cumulative ranking curve (SUCRA) metric, researchers evaluated and ranked the impact of these interventions on both physical function and psychological status in females multiple sclerosis, FATIGUE: Yoga (SUCRA=81) > RE (SUCRA=77) > AE (SUCRA=67.6) > CE (SUCRA=56.0) > CT (SUCRA=30.8) > MBE (SUCRA=25.7) > RT(SUCRA=11.9); QoL-total: RE (SUCRA=69.7) > AE (SUCRA=63.5) > Yoga (SUCRA=63.0) > RT (SUCRA=3.9); BALANCE: AE (SUCRA=89.7) > Yoga (SUCRA=66.9) > MBE (SUCRA=55.0) > RE (SUCRA=36.7) > RT (SUCRA=1.7); QoL-ph: MBE(SUCRA=82.0) > Yoga (SUCRA=78.7) > AE (SUCRA=45.1) > CE (SUCRA=35.8) > RT (SUCRA= 8.5); DEPRESS: Yoga (SUCRA=74.6) > AE (SUCRA=66.3) > CT (SUCRA=53.0) > CE (SUCRA=49.9) > MBE (SUCRA=45.6) > RT (SUCRA=10.6), QoL-mh: Yoga (SUCRA=79.5) > MBE (SUCRA=68.5) > CE (SUCRA=53.9) > AE (SUCRA=46.4) > RT (SUCRA=1.8).; Conclusions: For females with multiple sclerosis, regular physical activity boosts physical function and psychological status outcomes. Among these activities, yoga is the most effective way to improve their psychological well-being. (Copyright © 2026. Published by Elsevier B.V.)

[The Relationship Between Subjective and Objective Fatigue Assessment Approaches in Multiple Sclerosis: A Meta-Analysis](#)

Authors: Fleischmann, Holly H.;Derusha, Abigale E.;Kiselica, Andrew M.;Correia, Stephen and Sweet, Lawrence H.

Publication Date: 2026

Journal: Neuropsychology Review

[Fatigue in multiple sclerosis: A scoping review of pharmacological and nonpharmacological interventions](#)

Authors: Diaz-Quiroz, Mateo;Chicue-Cuervo, Paula;Garcia-Moreno, Luna;Gaviria-Carrillo, Mariana;Talero-Gutierrez, Claudia and Palacios-Espinosa, Ximena

Publication Date: 2025

Journal: Multiple Sclerosis Journal - Experimental, Translational and Clinical 11(1), pp. 20552173241312527

Abstract: Introduction: Fatigue is a highly prevalent symptom in people with multiple sclerosis. It demands careful assessment and prompt intervention to improve their quality of life and overall burden of disease. This scoping review aims to provide a comprehensive synthesis and update of the existing evidence on the effectiveness of different pharmacological and nonpharmacological interventions for multiple sclerosis (MS)-related fatigue.; Methods: To ensure the transparency and quality of the articles chosen for this scoping review, the Preferred Reporting Items for Systematic Reviews and Meta-analysis Protocols extension for Scoping Reviews was used. Exclusively randomized controlled trials published between 2016 and 2023 were included.; Results: Twenty-eight articles were analyzed. We found that pharmacological interventions are few and have included the use of





Amantadine, Ondansetron, Methylphenidate, and Modafinil, with little effects on fatigue. Nonpharmacological interventions are diverse and include cognitive behavioral therapy, guided imagery, phototherapy, exercise, brain stimulation, and lavender administration with evidence of a statistically significant decrease in fatigue.; Conclusions and Discussion: Current evidence on the effectiveness of pharmacological and nonpharmacological interventions is inconclusive. Lack of knowledge of the pathophysiology of fatigue limits its prevention, control, and management recommendations. A comprehensive and interdisciplinary approach is required to manage this symptom in patients with MS. (© The Author(s), 2025.)

[How is neuromuscular fatigability affected by perceived fatigue and disability in people with multiple sclerosis?](#)

Authors: Royer, Nicolas;Coates, Kyla;Aboodarda, Saied Jalal;Camdessanché, Jean-Philippe and Millet, Guillaume Y.

Publication Date: 2022

Journal: Frontiers in Neurology 13, pp. 983643

Abstract: Whereas fatigue is recognized to be the main complaint of patients with multiple sclerosis (PwMS), its etiology, and particularly the role of resistance to fatigability and its interplay with disability level, remains unclear. The purposes of this review were to (i) clarify the relationship between fatigue/disability and neuromuscular performance in PwMS and (ii) review the corticospinal and muscular mechanisms of voluntary muscle contraction that are altered by multiple sclerosis, and how they may be influenced by disability level or fatigue. Neuromuscular function at rest and during exercise are more susceptible to impairment, due to deficits in voluntary activation, when the disability is greater. Fatigue level is related to resistance to fatigability but not to neuromuscular function at rest. Neurophysiological parameters related to signal transmission such as central motor conduction time, motor evoked potentials amplitude and latency are affected by disability and fatigue levels but their relative role in the impaired production of torque remain unclear. Nonetheless, cortical reorganization represents the most likely explanation for the heightened fatigability during exercise for highly fatigued and/or disabled PwMS. Further research is needed to decipher how the fatigue and disability could influence fatigability for an ecological task, especially at the corticospinal level. (Copyright © 2022 Royer, Coates, Aboodarda, Camdessanché and Millet.)

[Fatigue as a symptom or comorbidity of neurological diseases](#)

Authors: Penner, Iris-Katharina and Paul, Friedemann

Publication Date: 2017

Journal: Nature Reviews.Neurology 13(11), pp. 662–675

Abstract: Fatigue, best described as an overwhelming feeling of tiredness and exhaustion, occurs in the context of various neurological diseases. The high prevalence of fatigue as either a symptom or a comorbidity of neurological disease must be taken seriously, as fatigue interferes with patients' activities of daily living, has a remarkable negative impact on quality of life, and is a major reason for early retirement. The tremendous consequences of fatigue are consistent across neurological diseases, as is the uncertainty concerning its underlying pathophysiological mechanisms. Inconsistencies in defining fatigue contribute to





the present situation, in which fatigue represents one of the least-studied and least-understood conditions. Tools for assessing fatigue abound, but few can be recommended for clinical or research use. To make matters worse, evidence-based pharmacological treatment options are scarce. However, non-pharmacological approaches are currently promising and likely to become of increasing importance. In sum, fatigue is challenging for both health-care professionals and patients. The present article aims to provide a comprehensive review of the literature on fatigue in neurological disease, and to reveal its complexity, as well as weaknesses in the concept of fatigue itself.

[Relationship between perceived fatigue and performance fatigability in people with multiple sclerosis: A systematic review and meta-analysis](#)

Authors: Loy, Bryan D.; Taylor, Ruby L.; Fling, Brett W. and Horak, Fay B.

Publication Date: 2017

Journal: Journal of Psychosomatic Research 100, pp. 1–7

Abstract: Background: Perceived fatigue (i.e., subjective perception of reduced capacity) is one of the most common and disabling symptoms for people with multiple sclerosis (MS). Perceived fatigue may also be related to performance fatigability (i.e., decline in physical performance over time), although study findings have been inconsistent.; Objective: To locate all studies reporting the relationship between perceived fatigue and fatigability in people with MS, determine the population correlation, and examine moderating variables of the correlation size.; Methods: In accordance with PRISMA guidelines, systematic searches were completed in Medline, PsychInfo, Google Scholar, and the Cochrane Library for peer-reviewed articles published between March 1983 and August 2016. Included articles measured perceived fatigue and performance fatigability in people with MS and provided a correlation between measures. Moderator variables expected to influence the relationship were also coded. Searches located 19 studies of 848 people with MS and a random-effects model was used to pool correlations.; Results: The mean correlation between fatigue and fatigability was positive, "medium" in magnitude, and statistically significant, $r=0.31$ (95% CI=0.21, 0.42), $p<0.001$. Despite moderate between-study heterogeneity ($I^2=46\%$) no statistically significant moderators were found, perhaps due to the small number of studies per moderator category.; Conclusion: There is a significant relationship between perceived fatigue and fatigability in MS, such that people reporting elevated fatigue also are highly fatigable. The size of the relationship is not large enough to suggest fatigue and fatigability are the same construct, and both should continue to be assessed independently. (Copyright © 2017. Published by Elsevier Inc.)





Studies & Trials

[Bridging the gap: A symptom network analysis of depression, anxiety, and fatigue in multiple sclerosis](#)

Authors: Strathdee, Charles J.;Krug, Isabel;Malpas, Charles and Kiropoulos, Litza

Publication Date: 2026

Journal: Multiple Sclerosis and Related Disorders 109, pp. 107102

Abstract: Background: Depressive, anxiety, and fatigue symptoms are highly prevalent in people with multiple sclerosis (pwMS) and have been found to co-occur. Together, these symptoms result in poorer outcomes for pwMS. However, the network topology of comorbid depression, anxiety, and fatigue in pwMS has been to be investigated.; Methods: We estimated depressive, anxiety, and fatigue symptom networks using data from the same people with multiple sclerosis at two time points: at baseline (N = 272) and at 6-months follow-up (N = 141). Expected influence (EI) centrality analyses were performed to estimate the relative influence of each symptom within the two networks. Bridge EI and community analyses were performed to identify potential bridge symptoms and densely connected symptom groups.; Results: 'Worthlessness' and 'anhedonia' emerged with the highest EI at baseline and follow-up, respectively. In terms of bridging symptoms, 'worthlessness', 'afraid something awful would happen', and 'fatigue severity' emerged as potential bridging symptoms that clustered depressive, anxiety, and fatigue symptoms in pwMS. This changed to 'restlessness', 'uncontrollable worry', and 'suicidal ideation' at follow-up. Further analyses indicated that the two networks remained similar with respect to global strength ($p = .97$) CONCLUSIONS: Our findings demonstrate that depressive, anxiety, and fatigue symptoms are highly interconnected in MS. Identifying bridging symptoms may allow for a renewed therapeutic focus and avenue for symptomatic improvement across board areas of psychopathology in MS. (Copyright © 2026 The Authors. Published by Elsevier B.V. All rights reserved.)

[Development of a New Patient-Reported Outcome to Measure Fatigue in Patients with Multiple Sclerosis](#)

Authors: Jorquera-Ruzzi, Miguel;Ramo Tello, Cristina;Durà-Mata, Maria José and Casas, Irma

Publication Date: 2026

Journal: Nursing Reports (Pavia, Italy) 16(3)

Abstract: Background: Fatigue is a multidimensional and subjective experience, and it is one of the most common symptoms of multiple sclerosis (MS), affecting up to 80% of patients and acting as a major driver of work disability. Despite its clinical significance, existing assessment tools often lack conceptual clarity or remain too lengthy for routine clinical use. Objective: To develop and evaluate a new patient-reported outcome instrument designed to assess multidimensional fatigue domains in patients with multiple sclerosis (MS) for use in clinical practice. Methods: This study was carried out in three research stages. Stage 1 (Concept Elicitation) involved qualitative interviews (n = 19) to identify core fatigue domains based on patient experience. Stage 2 (Cognitive Interviews) consisted of interviews with 50 patients to ensure the relevance and clarity of the items. Stage 3 (Exploratory Factor Analysis) and internal consistency testing (Cronbach's alpha) were performed on the same sample of 50 patients to examine the preliminary factor structure and reliability. Results:





Concept elicitation identified lack of energy and persistent exhaustion as core symptoms. The resulting 14-item instrument covers three subdomains: Psychosocial, Physical, and Cognitive. Exploratory factor analysis supported a three-factor solution explaining 75% of the total variance (Factor 1: 28%; Factor 2: 27%; Factor 3: 20%). Internal consistency was high across all factors: Psychosocial ($\alpha = 0.923$), Physical ($\alpha = 0.895$), and Cognitive ($\alpha = 0.844$). Conclusions: This new instrument is a conceptually robust tool that captures the interconnected nature of fatigue in multiple sclerosis (MS). These initial findings support its internal structure and conceptual foundation, providing a practical tool for symptom monitoring in neurological consultations.

[Effect of laughter yoga on fatigue, sleep quality and psychological well-being in people with multiple sclerosis: A randomized controlled trial](#)

Authors: Kaplan, Nurgül;Tan, Mehtap and Aksoy, Dürdane

Publication Date: 2026

Journal: Multiple Sclerosis and Related Disorders 109, pp. 107098

Abstract: Background and Purpose: Symptoms such as fatigue, sleep disturbances, and impaired psychological well-being are common in individuals Multiple Sclerosis (MS). However, studies on the use of laughter yoga, a non-invasive intervention method, are very limited in the literature. The aim of this study was to evaluate the effects of laughter yoga on fatigue, sleep quality and psychological well-being in individuals with MS.; Materials and Methods: In this randomized controlled trial, 42 people with MS were randomly assigned to intervention or control group. The intervention group received a total of 12 sessions of laughter yoga. Descriptive Information Form, Fatigue Severity Scale (FSS), Pittsburgh Sleep Quality Index (PSQI) and Psychological Well-Being Scale (PWBS) were used to collect data.; Results: Laughter yoga was associated with improvements in fatigue and sleep outcomes. Fatigue severity decreased substantially in the intervention group (Cohen's $d = 2.785$), with no meaningful change observed in the control group. Sleep quality improved in the intervention group, as indicated by reduced Pittsburgh Sleep Quality Index scores ($p < 0.001$, $d = 2.921$). Psychological well-being increased within the intervention group ($d = -1.505$); however, the between-group effect at post-test was small ($d = 0.485$).; Conclusion: Laughter yoga showed statistically significant results in terms of decreasing fatigue level, increasing sleep quality and psychological well-being in individuals with MS. The findings suggest that laughter yoga is a low-cost and effective complementary psycho-social intervention that can be used in clinical settings within the scope of nursing practice. This intervention offers an evidence-based approach that can be integrated into nursing care to manage fatigue and sleep problems and improve psychological well-being in individuals with MS. For the generalizability of the effects of laughter yoga, studies with larger samples are needed. (Copyright © 2026 Elsevier B.V. All rights reserved.)

[Fatigue prevalence, interactions with associated symptoms and longitudinal changes in those with multiple sclerosis: Insights from the TONiC study](#)

Authors: Young, Carolyn A.;Rog, David;Tanasescu, Radu;Sharrack, Basil;Tennant, Alan and Mills, Roger

Publication Date: 2026

Journal: Journal of the Neurological Sciences 484, pp. 125853





Abstract: Aims: Fatigue is a pervasive feature of multiple sclerosis (MS) and its interaction with other MS symptoms is complex. These interactions were explored over time in a large cohort of adults with MS, using a measure reflecting a patient-based definition of MS fatigue.; Methods: Participants were recruited across the UK to complete a questionnaire pack, measuring fatigue and associated demographic, clinical and symptom factors, repeated serially over up to 54 months. Following conversion to interval-level estimates, data were analysed by regression, structural equation and trajectory modelling, and Classification and Regression Tree Analysis.; Results: In 6356 people with MS, the prevalence of moderate/severe fatigue was 565.4/1000 (95% CI: 553.0-577.8), with no difference between sexes but significantly higher in progressive subtypes. Peak prevalence was from age 50-64. Spasticity-related pain, physical/cognitive function, anxiety, visual problems and non-restorative sleep were associated with increased fatigue. Self-efficacy had strong influences to reduce fatigue. Use of disease modifying treatment was associated with worse fatigue. Trajectory analysis showed four groups, 28.9% have ongoing severe fatigue, 66.3% fall into two worsening fatigue groups with different inception points. Only 4.9% had low, stable fatigue. These four groups varied significantly by MS subtype, EDSS, symptoms, comorbidity, and employment. The risk of fatigue worsening to moderate/severe over the ensuing 27 months could be predicted by sex, EDSS, vision and self-efficacy.; Conclusions: The factors interacting with MS fatigue need consideration when managing this prevalent symptom. In addition, their effect should be accounted for in any MS trial where fatigue is an outcome. (Copyright © 2026 The Authors. Published by Elsevier B.V. All rights reserved.)

[From the body and through the body: A multidimensional assessment of functional body representations, interoceptive dimensions, and quality of life in multiple sclerosis](#)

Authors: Raimo, Simona;Ferrazzano, Gina;Di Vita, Antonella;Gaita, Mariachiara;Satriano, Federica;Veneziano, Miriam;Torchia, Valentina;Belvisi, Daniele;Leodori, Giorgio;Collura, Angelo;Signoriello, Elisabetta;Lus, Giacomo;Palermo, Liana and Conte, Antonella

Publication Date: 2026

Journal: Neuropsychology 40(3), pp. 306–313

Abstract: Objective: Multiple sclerosis (MS) is a neurological condition that affects physical, cognitive, and emotional functions, significantly impacting quality of life (QoL) even in its early stages. Beyond the typical motor, sensory, visual, and brainstem disorders usually assessed by the Expanded Disability Status Scale, MS also impairs functional body representations and interoception, diminishing overall functioning and QoL. In this study, we aim to explore the relationships between functional body representations, interoceptive processes, and major clinical outcomes, including physical disability (Expanded Disability Status Scale), fatigue severity, and health-related QoL in people with MS.; Method: Fifty-nine people with MS were assessed with tasks assessing body representations, action-oriented and nonaction-oriented, and interoception.; Results: Action-oriented and nonaction-oriented body representation performance was significantly associated with fatigue severity ($r = -.337$ and $r = .301$, respectively; $ps \leq .021$), suggesting that body representations are particularly vulnerable to perceived fatigue in MS. In addition, fatigue severity and bowel/vesical dysfunction were positively correlated with the tendency to overestimate one's own interoceptive capabilities ($r = .335$ and $r = .311$, respectively; $ps \leq .017$), highlighting the role of MS-related disability in interoception.; Conclusions: These findings underscore the importance of integrating assessments of body representation and interoception into clinical practice to guide therapeutic interventions aimed at improving people with MS outcomes and QoL. (Psychnfo Database Record (c) 2026 APA, all rights reserved).





[Noninferiority Randomized Clinical Trial Comparing Three Delivery Formats of a Rehabilitation Intervention to Reduce Fatigue Among Individuals With Multiple Sclerosis](#)

Authors: Plow, Matthew;Packer, Tanya;Mathiowetz, Virgil G.;Van Denend, Toni;Preissner, Katharine;Ghahari, Setareh;Wu, Qian;Sattar, Abdus;Bethoux, Francois;Nowacki, Amy S. and Finlayson, Marcia

Publication Date: 2026

Journal: Archives of Physical Medicine and Rehabilitation 107(4), pp. 691–702

Abstract: Objective: To compare 3 delivery formats of a rehabilitation intervention in reducing fatigue: (1) synchronous group sessions via audio-only teleconference, (2) asynchronous group sessions delivered online, and (3) synchronous 1-to-1 sessions delivered in-person or videoconference. The primary hypothesis was that group-based teleconference and internet formats would be noninferior to the 1-to-1 format.; Design: Decentralized, randomized, noninferiority trial with assessments at baseline, 2, 3, and 6 months.; Setting: Community-based adults in Midwestern United States.; Participants: A total of 590 adults with multiple sclerosis.; Interventions: An occupational therapist-led intervention aimed at supporting self-management of fatigue.; Main Outcome Measures: Generalized estimating equations tested the primary hypothesis using a 10-point noninferiority margin on the Fatigue Impact Scale (FIS). Moderation and mediation analyses explored the effects of demographic, health, and psychosocial factors.; Results: Generalized estimating equation analysis showed that the teleconference format had higher (worse) estimated FIS scores compared with the 1-to-1 format, with values of 5.96 (1.80-10.12) at 2 months, 8.73 (4.52-12.94) at 3 months, and 4.89 (0.67-9.12) at 6 months. The internet format also had higher FIS scores, with estimates of 9.94 (5.68-14.20) at 2 months, 9.09 (4.80-13.38) at 3 months, and 6.12 (1.81-10.44) at 6 months. Moderation analysis indicated that participants from racial and ethnic minority groups, and individuals experiencing more anxiety, sleep disturbance, or comorbidities derived better improvements in FIS from the 1-to-1 format. College graduates (4-year degree) typically did worse in the internet format compared to the 1-to-1 format. The number of logins significantly mediated fatigue improvements in the internet format, whereas outcome expectations significantly mediated the teleconference format.; Conclusions: The upper bound confidence interval for teleconference and internet formats exceeded the noninferiority margin at most timepoints, indicating the hypothesis was neither supported nor rejected. Although teleconference and internet formats may offer broader accessibility, potential effectiveness trade-offs should be considered, especially for individuals with complex health profiles needing intense, personalized care. (Copyright © 2025 American Congress of Rehabilitation Medicine. Published by Elsevier Inc. All rights reserved.)

[Pilot randomized controlled trial of the ReFresh online fatigue management programme for people with Parkinson's disease](#)

Authors: Alageel, Sarah;Hibberd, Jane and Deane, Katherine H. O.

Publication Date: 2026

Journal: Neurodegenerative Disease Management , pp. 1–9

Abstract: Aims: Fatigue is one of the most disabling symptoms experienced by people with Parkinson's disease, yet few evidence-based non-pharmacological interventions are





available. This study evaluated the feasibility, acceptability, and exploratory clinical signals of the Rebalancing Fatigue and Enhancing Self-Help (ReFresh) online fatigue management programme for people with Parkinson's disease.; Patients and Methods: A pilot randomized controlled trial with a wait-list control group was conducted. Participants with Parkinson's disease experiencing fatigue were randomized to either the six-week ReFresh online programme or a wait-list control. Feasibility outcomes included recruitment, retention, adherence, and participant engagement. Secondary outcomes included fatigue severity, fatigue self-efficacy, sleep quality, mood, and occupational performance.; Results: A total of 118 participants were randomized. Recruitment targets were achieved; however, retention and adherence were modest. Participants who completed the programme reported improvements in fatigue self-efficacy and perceived ability to manage fatigue, while changes in fatigue severity were smaller. Qualitative feedback indicated that participants valued the flexibility and accessibility of the online format.; Conclusions: The ReFresh programme demonstrated feasibility and acceptability as a digitally delivered fatigue management intervention for people with Parkinson's disease. Future research should explore strategies to improve engagement and evaluate the programme in a fully powered randomized controlled trial.; Clinical Trial Registration: ISRCTN Registry, ISRCTN62114944, <https://www.isrctn.com/ISRCTN62114944>.

[Randomized controlled trial of a remotely-delivered exercise training program in older adults with multiple sclerosis: Secondary effects on cognition, symptoms, and quality of life](#)

Authors: Zheng, Peixuan;DeJonge, Sydney R.;DuBose, Noah G.;Kidwell-Chandler, Ariel;Martin, Trevor B.;Huynh, Trinh L. T. and Motl, Robert W.

Publication Date: 2026

Journal: Multiple Sclerosis and Related Disorders 109, pp. 107105

Abstract: Background: Older adults with multiple sclerosis (MS) experience co-occurring effects of aging and disease progression, resulting in worsening cognition, symptoms, and quality of life (QOL). There is limited research examining approaches for improving those outcomes in older adults with MS.; Objectives: We examined the efficacy of a 16-week home-based exercise training program for improving secondary study outcomes of cognition, symptoms, and QOL in older adults with MS.; Methods: This phase-Ib, randomized controlled trial (RCT) included 51 participants (60.5±6.6 years, 78% females) who were randomized into exercise training (aerobic and resistance) or active control (stretching) conditions. Participants completed laboratory assessments before and after the 16-week programs. Cognitive function was measured using the NIH Toolbox Cognitive Battery. Symptoms of fatigue, depression, anxiety, and pain were assessed using the Fatigue Severity Scale, Modified Fatigue Impact Scale, Hospital Anxiety and Depression Scale, and Short-form McGill Pain Questionnaire, respectively. QOL was measured by the 29-item Multiple Sclerosis Impact Scale and the 36-Item Short Form Health Survey.; Results: Forty-one participants (80.4 %) completed the conditions, with outcome data obtained from 20 exercise and 16 control participants. There were statistically significant improvements in executive function, processing speed, fatigue, and health-related QOL in the exercise group (p 0.05).; Conclusions: We provide preliminary evidence on the benefits of exercise training for improving cognition, reducing fatigue impact, and enhancing QOL in older adults with MS who had moderate disability. (Copyright © 2026 The Authors. Published by Elsevier B.V. All rights reserved.)





[Results of a pilot randomized controlled trial of a COM-B-based physical activity behavior-change intervention in people newly diagnosed with multiple sclerosis](#)

Authors: Huynh, Trinh Lt and Motl, Robert W.

Publication Date: 2026

Journal: Multiple Sclerosis and Related Disorders 108, pp. 107031

Abstract: Purpose: This pilot randomized controlled trial (RCT) evaluated the efficacy of a behavioral intervention grounded in the Capability-Opportunity-Motivation-Behavior (COM-B) model delivered via online coaching and newsletters for promoting physical activity (PA) in people newly diagnosed with multiple sclerosis (PNDwMS).; Methods: This unblinded, parallel-group, RCT included 50 PNDwMS (disease duration ≤ 2 years) who were randomized into either PA intervention ($n = 25$) or waitlist control (WLC) ($n = 25$) conditions. The intervention was delivered over 16 weeks by a researcher uninvolved in randomization. Data were collected pre- and post-intervention. Primary outcomes included device-measured (steps/day, light PA LPA], moderate-to-vigorous PA MVPA]) and self-reported PA (Godin Leisure-Time Exercise Questionnaire GLTEQ] and International Physical Activity Questionnaire IPAQ]). Secondary outcomes included fatigue, depression, anxiety, and health-related quality of life (HRQOL). Data were analyzed (intent-to-treat) using condition-by-time mixed-effects ANOVA.; Results: There were significant condition-by-time interactions on device-measured (MVPA) and self-reported (IPAQ) PA as well as depression and mental HRQOL (all $p \leq .05$). There were moderate and significant improvements in MVPA ($\Delta 11.2$ min/day, 95% CI: 8.8, 13.7, $d = 0.5$) and IPAQ ($\Delta 11.4$ units, 95% CI: 10.4, 12.3, $d = 0.7$), HADS-D ($\Delta 1.4$ units, 95% CI: 1.3, 1.5, $d = 0.5$), and SF-12 MCS ($\Delta 5.6$ units, 95% CI: 5.1, 6.1, $d = 0.6$) scores in the PA intervention condition, but not in the WLC condition.; Conclusion: These findings provide preliminary evidence for the efficacy of the COM-B-based behavioral intervention for increasing PA and improving mental health outcomes in PNDwMS. (Copyright © 2026 Elsevier B.V. All rights reserved.)

[Baseline predictors of sustained fatigue onset in multiple sclerosis: A longitudinal survival analysis of the MS PATHS cohort](#)

Authors: Ghajarzadeh, Mahsa;Mowry, Ellen M. and Nourbakhsh, Bardia

Publication Date: 2026

Journal: Multiple Sclerosis and Related Disorders 106, pp. 106915

Abstract: Fatigue is a common and debilitating symptom of multiple sclerosis (MS). While some patients experience fatigue prior to or at the time of diagnosis, a proportion develop this symptom during the disease course. This study aimed to identify factors associated with the future development of sustained fatigue in patients who were fatigue-free at baseline. We analyzed longitudinal data from a large, real-world cohort of people with MS, drawn from the Multiple Sclerosis Partners Advancing Technology and Health Solutions (MS PATHS) across 10 healthcare associations. Using Neuro-QoL-recommended T-score cut-points, participants' fatigue levels at baseline were categorized as "no fatigue" (T-score \leq sample mean + 0.5 SD) or "fatigued" (T-score $>$ sample mean + 0.5 SD). A multivariable time-to-event analysis was employed to determine predictors of 3-month sustained fatigue. Of the 6,327 fatigue-free participants included, 23.1 % developed sustained fatigue during an average (SD) of 2.5 (2.3) years of follow-up. Factors significantly associated with an increased risk of developing sustained fatigue included higher baseline physical disability (PDDS; HR = 1.38, 95 % CI: 1.15-1.67), depression (HR = 1.03, 95 % CI: 1.01-1.04), and





anxiety (HR = 1.04, 95 % CI: 1.03-1.06). Conversely, better baseline cognitive function (HR = 0.96, 95 % CI: 0.95-0.97) was protective. Restricted Mean Survival Time (RMST) analysis showed that participants with a baseline PDDS \leq 5 experienced an eight-month longer delay in the development of sustained fatigue (95 % CI: 5.0-11.1, P 5. Similarly, participants without baseline depression had a 17.4-month longer delay (95 % CI: 15.6-19.1, P < 0.001) compared to those with depression. In conclusion, nearly a quarter of initially fatigue-free patients developed sustained fatigue during medium-term follow-up. Baseline physical disability, depression, anxiety, and cognitive function were significant predictors of this outcome. These findings may guide interventions aimed at reducing the burden of fatigue, a disabling symptom in MS. (Copyright © 2025. Published by Elsevier B.V.)

[Cognitive reserve in multiple sclerosis: The role of depression and fatigue](#)

Authors: Stein, Clara;O'Keeffe, Fiadhnaite;Brosnan, Méadhbh;Flynn, Claire;McGuigan, Christopher and Bramham, Jessica

Publication Date: 2025

Journal: Multiple Sclerosis (Houndmills, Basingstoke, England) 31(8), pp. 995–1006

Abstract: Background: Several reports suggest that cognitive reserve (CR) may protect against cognitive impairment in MS. Fatigue and depression are common in MS. Yet, their influence on engagement with activities that build CR is unclear.; Objectives: This study aimed to achieve a better understanding of CR-building in MS, by examining how CR differs in people with MS (pwMS) compared with neurologically healthy individuals and by investigating how common MS symptoms interact with CR-building.; Methods: In total, 206 pwMS and 150 age- and gender-matched controls participated in this cross-sectional study. Participants completed self-report measures of CR accumulated in early life and across the lifespan (including education, occupation, cognitively enriching leisure activities), and of cognitive functioning, fatigue, depression, anxiety and MS-impact on everyday life.; Results: PwMS' recent engagement in cognitively enriching leisure activities was negatively associated with self-reported cognitive difficulties ($\rho = -0.31$, $p < 0.001$). However, after controlling for fatigue and depression, this association was no longer present. Correspondingly, we observed that higher levels of depression were associated with lower engagement in cognitively enriching leisure activities ($B = -0.41$ (95% confidence interval (CI): -0.61 to -0.22), $p < 0.001$).; Conclusion: Our results highlight the importance of addressing depression and fatigue in the context of lifestyle recommendations.

[Perceived physical and mental fatigability in older adults with and without multiple sclerosis](#)

Authors: Luo, Di-Hua and Holtzer, Roee

Publication Date: 2024

Journal: Multiple Sclerosis and Related Disorders 90, pp. 105807

Abstract: Background: Fatigue stands out as a prevalent and debilitating symptom in both Multiple Sclerosis (MS) and the aging population. Traditional methods for measuring perceived fatigue may not adequately account for individual activity differences, leading to varied prevalence rates. Perceived fatigability anchors fatigue to specific activities with predetermined intensity and duration, thereby mitigating self-pacing bias. Despite its potential, perceived fatigability is poorly understood in older adults, particularly those with





neurological conditions, including MS. This study thus aimed to (1) investigate whether, among older adults, MS was associated with worse perceived physical and mental fatigability; (2) evaluate whether, among older adults with MS (OAMS), greater patient-reported disease-related disability was associated with worse perceived physical and mental fatigability.; Methods: Participants were 96 older adults with a physician-confirmed diagnosis of MS (mean age: 64.6 ± 4.2) and 110 healthy controls (mean age: 68.2 ± 7.2), all confirmed to be dementia-free through established case conference procedures. Physical and mental fatigability were measured using the Pittsburgh Fatigability Scale, a 10-item questionnaire (score range: 0 to 50) designed to assess fatigue levels that individuals expect to feel after engaging in a range of typical activities for older adults. MS disease-related disability was assessed with the Patient Determined Disease Steps scale, which ranges from 0 (normal) to 8 (bedridden), with scores ≥ 2 indicating worse MS-related disability after a median split. Separate linear regression models were performed to investigate associations between group status (MS vs. Control) as the predictor and perceived physical and mental fatigability scores as the outcome variables. Within the MS group, additional linear regression models were performed to explore the relationship between disease-related disability and fatigability levels. All models adjusted for age, sex, race, education, global health, general cognitive function, and depressive symptoms levels.; Results: The fully adjusted models yielded the following key findings: OAMS reported significantly higher levels of perceived physical fatigability ($M = 25.11 \pm 9.67$) compared to controls ($M = 17.95 \pm 8.35$) ($p = 0.003$). Similarly, the perceived mental fatigability in OAMS ($M = 16.82 \pm 11.79$) was significantly greater than that in controls ($M = 9.15 \pm 7.12$) ($p = 0.003$). Within the MS group, individuals with greater disease-related disability reported significantly greater levels of both physical ($M = 30.13 \pm 7.71$ vs. 18.67 ± 8.00 , $p < 0.001$) and mental fatigability ($M = 20.31 \pm 12.18$ vs. 12.33 ± 9.69 , $p = 0.009$) compared to those with lower MS-related disability. Of note, the significance of these findings persisted in models that adjusted for depressive symptoms.; Conclusion: Our study provides compelling evidence that OAMS exhibit significantly higher perceived physical and mental fatigability compared to healthy controls. Additionally, worse MS-related disability correlates with worse physical and mental fatigability. These results persist after adjusting for confounders including depressive symptoms. Our findings underscore the necessity of holistic management strategies that cater to both physical and psychological aspects of MS, laying a foundation for future studies to uncover the pathophysiological mechanisms of fatigability in older adults with and without MS. (Copyright © 2024. Published by Elsevier B.V.)

[Physical Activity Together for Multiple Sclerosis \(PAT-MS\): A randomized controlled feasibility trial of a dyadic behaviour change intervention](#)

Authors: Fakolade, Afolasade;Awadia, Zain;Cardwell, Katherine;McKenna, Odessa;Venasse, Myriam;Hume, Taylor;Ludgate, Julia;Freedman, Mark S.;Finlayson, Marcia;Latimer-Cheung, Amy and Pilutti, Lara A.

Publication Date: 2023

Journal: Contemporary Clinical Trials Communications 36, pp. 101222

Abstract: Background: Many people with advanced multiple sclerosis (MS) and their care-partners do not engage in sufficient physical activity (PA) for health benefits. We developed "Physical Activity Together for MS (PAT-MS)", a 12-week dyadic behavioural intervention, to promote PA among these dyads. Herein, we evaluated the feasibility of PAT-MS before a definitive trial.; Methods: A randomized controlled feasibility trial, with 1:1 allocation into the intervention or wait-list control condition. Predefined progression criteria included rates of recruitment, retention, safety, participant satisfaction and adherence. Changes in self-reported and accelerometer-measured PA were assessed at baseline and post-intervention





using mixed-factor ANOVAs. Effects sizes were calculated as Cohen's d .; Results: The recruitment rate (i.e., 20 participants in 10 months) was not acceptable. However, retention (80%) was acceptable. No serious adverse events were reported. There were high levels of participant satisfaction with the intervention (content (median = 6 out of 7), facilitator (median = 7 out of 7), and delivery (median = 5 out of 7)) and adherence (92% of the group sessions, 83% of the individual support calls, and 80% of the practice activities were completed). There were statistically significant time-by-condition interactions on self-reported PA, steps/day, and %wear time and minutes in sedentary behaviour, and moderate-to-vigorous PA from baseline to post-intervention in people with MS and their family care-partners.; Conclusion: PAT-MS appears feasible, safe, and efficacious for PA promotion in MS dyads. We established effect size estimates to power a future definitive trial and identified necessary methodological changes to increase the efficiency of study procedures and improve the quality of the intervention.; Trial Registration: ClinicalTrials.gov NCT04267185; Registered February 12, 2020, <https://clinicaltrials.gov/ct2/show/NCT04267185>. (© 2023 The Authors.)

[Study protocol for an online lifestyle modification education course for people living with multiple sclerosis: the multiple sclerosis online course \(MSOC\)](#)

Authors: Reece, Jeanette C.; Yu, Maggie; Bevens, William; Simpson-Yap, Steve; Jelinek, George; Jelinek, Pia; Davenport, Rebekah; Nag, Nupur; Gray, Kathleen and Neate, Sandra

Publication Date: 2023

Journal: BMC Neurology 23(1), pp. 249

Abstract: Background: People living with multiple sclerosis (plwMS) seek access to information on evidence-based lifestyle-related risk factors associated with multiple sclerosis (MS). As the internet has made delivery of lifestyle information increasingly accessible and cost-effective, we designed the Multiple Sclerosis Online Course (MSOC) to deliver a multimodal lifestyle modification program for plwMS. Two MS online courses were developed: the intervention course based on lifestyle recommendations of the Overcoming Multiple Sclerosis (OMS) program and the standard-care course representing standard lifestyle recommendations from other MS websites. We examined for feasibility in a pilot randomised controlled trial (RCT), where satisfactory completion and accessibility were achieved across both study arms. From this success, a protocol for a larger RCT was developed to examine the effectiveness of MSOC in improving health-related quality of life (HRQoL) and other health outcomes in plwMS.; Methods/design: This single-blinded RCT will recruit $n = 1,054$ plwMS. Participants in the intervention arm will receive access to a MSOC with seven modules providing evidence-based information on the OMS program. Participants in the control group will receive access to a MSOC of identical format, with seven modules providing general MS-related information and lifestyle recommendations sourced from popular MS websites, e.g. MS societies. Participants will complete questionnaires at baseline and at 6, 12, and 30 months after course completion. The primary endpoint is HRQoL, as measured by MSQOL-54 (both physical and mental health domains) at 12 months following course completion. Secondary outcomes are changes to depression, anxiety, fatigue, disability, and self-efficacy as measured by Hospital Anxiety and Depression Scale, Patient-Determined Disease Steps and University of Washington Self-Efficacy Scale, respectively, assessed at each timepoint. Further assessments will include quantitative post-course evaluation, adoption and maintenance of behaviour change from follow-up survey data, and qualitative analysis of participants' outcomes and reasons for course completion or non-completion.; Discussion: This RCT aims to determine whether an online intervention course delivering evidence-based lifestyle modification recommendations based on the Overcoming Multiple Sclerosis program to plwMS is more effective at improving HRQoL, and





other health outcomes post-intervention, compared with an online standard-care course.; Trial Registration: This trial was registered prospectively with the Australian New Zealand Clinical Trials Registry, www.anzctr.org.au , identifier ACTRN12621001605886.; Date of Registration: 25 November 2021. (© 2023. The Author(s).)

[Evaluating occupational performance coaching to support fatigue management for people with multiple sclerosis: A feasibility study](#)

Authors: Askari, Sorayya;Kessler, Dorothy;Smyth, Penelope and Finlayson, Marcia

Publication Date: 2022

Journal: Clinical Rehabilitation 36(9), pp. 1244–1256

Abstract: Objective: To determine the feasibility of adding coaching sessions to a website (MS INFoRM) that supports self-directed fatigue management for people with multiple sclerosis (PwMS).; Design: Double-blind, parallel-group feasibility study.; Participants and Setting: Twenty-six PwMS, who experienced severe fatigue (fatigue severity scale > 5.4), were recruited from participants who were ineligible for the main trial testing on the MS INFoRM website.; Intervention: Six 45-to-60-min sessions of one-on-one coaching plus access to the MS INFoRM website compared to two check-in phone calls plus access to the MS INFoRM website. Both study arms took place over 3 months.; Main Measures: Feasibility parameters included proportion eligible of those screened; proportion consented; missing data; retention and adherence rates. Acceptability was explored through qualitative interviews. Secondary outcomes (self-efficacy and fatigue impact) were measured at baseline and post-intervention.; Results: 76 people were invited to participate in this add-on study. 40 were interested and screened: 32 were eligible, 26 consented, and were randomized (mean age: 48.5 yrs (SD: 8.7), mean disease duration: 11.5 yrs). Retention was 85% (22 out of 26). Coaching adherence was high (86% attended \geq 5 sessions). At 3 months, people in the intervention group showed more improvements in self-efficacy and fatigue impact compared to the comparison group, however, the difference was not statistically significant ($p = 0.471$ and $p = 0.147$, respectively). The intervention was well-received by the participants and there were no adverse events.; Conclusion: Combining one-on-one coaching sessions along with web-based interventions is feasible and appreciated by the participants, and worth exploring further in a larger trial.

[Fatigue in multiple sclerosis: A UK MS-register based study](#)

Authors: Moore, Harriet;Nair, Krishnan Padmakumari Sivaraman;Baster, Kathleen;Middleton, Rod;Paling, David and Sharrack, Basil

Publication Date: 2022

Journal: Multiple Sclerosis and Related Disorders 64, pp. 103954

Abstract: Background: Fatigue is a widely experienced, incapacitating symptom of MS. It hinders daily functioning and has deleterious effects on quality of life. The UK MS Register is an online registry of over 20,000 participants with MS. The aim of this study was to estimate the prevalence, predictors, and impact of fatigue on people with MS using data from the UKMS register.; Methods: All participants who completed the Fatigue Severity Scale (FSS), WebEDSS, Hospital Anxiety and Depression Scale (HADS) within 28 days of each other were selected from the UK MS Register. Data on age, gender, duration and type of MS, use





of disease modifying drugs and comorbidities were obtained from the UKMS register. We categorised people with FSS score of 5 or more as with fatigue and those with scores of 4 or less as without fatigue. Descriptive statistics and logistical and multiple regressions were used to explore predictors of fatigue and the effect of fatigue on mobility (MS Walking Scale), physical and psychological aspects of life (MS Impact Scale) and quality of life (European Quality of Life 5D-3 L).; Results: Amongst the 20,946 participants of the UK MS registry, 4620 completed FSS. Out of these, 775 (mean age= 54.71 years, SD= 10.90; mean duration of MS diagnosis =13.21 years, SD=9.75) had completed the FSS, Web EDSS and Hospital Anxiety and Depression Scale within 28 days of each other. 427 (55.1%) of pwMS had a FSS score >5 consistent with clinical fatigue. Logistic regression analysis showed that depression ($p = 0.001$) and physical ($p > 0.001$) domains of the MS Impact scale, MS walking scale ($p = 0.003$) and EQoL ($p = 0.005$).; Conclusions: Fatigue was a common symptom amongst people with MS. Depression, longer duration of MS, secondary progressive MS, and high EDSS predicted fatigue. Fatigue had an adverse effect on physical activities, mobility, psychological wellbeing, and quality of life of people with MS. (Copyright © 2022. Published by Elsevier B.V.)

[Clinical manifestation and perceived symptoms of walking-related performance fatigability in persons with multiple sclerosis](#)

Authors: Van Geel, Fanny;Bielen, Hanne;Theunissen, Kyra;Moumdjian, Lousin;Van Nieuwenhoven, Johan;Van Wijmeersch, Bart;Meesen, Raf;Ramari, Cintia and Feys, Peter

Publication Date: 2021

Journal: International Journal of Rehabilitation Research.Internationale Zeitschrift Fur Rehabilitationsforschung.Revue Internationale De Recherches De Readaptation 44(2), pp. 118–125

Abstract: Fatigue and walking difficulties are common impairments and activity limitations in persons with multiple sclerosis (PwMS). Walking fatigability (WF) can be measured by a Distance Walked Index and is defined as a decline in walking distance of 10% or more during the six-minute walking test (6MWT). However, the clinical manifestation and perceived symptoms related to fatigability are still not well documented. Forty-nine PwMS Expanded Disability Status Scale (EDSS) ≤ 6 and 28 healthy controls (HC) performed a 6MWT. The perceived severity of 11 common symptoms was rated on a visual analogue scale of 0-10 before, immediately after, and 10, 20 and 30 minutes after the 6MWT by means of the symptom inventory. Short motor impairment screening tests at baseline together with other descriptive measures were performed. Twenty pwMS were categorized in the WF group and were more disabled (EDSS: 4.16 ± 1.41) than the non-walking fatigability group ($n = 29$, EDSS: 2.62 ± 1.94). PwMS showed exacerbations of several perceived symptoms in MS, where most symptoms returned to baseline within 10 minutes after the walking test. The WF group showed significantly more muscle weakness and gait impairment, together with balance problems, and experienced an increase in spasticity, pain and dizziness after 6MWT. Our findings showed that perceived severity of symptoms are higher in pwMS presenting WF, and increase temporally after the 6MWT. Future research with quantitative measurement during and after walking is recommended. (Copyright © 2021 Wolters Kluwer Health, Inc. All rights reserved.)

[Objectively-assessed physical activity and self-reported activity pacing in adults with multiple sclerosis: A pilot study](#)

Authors: Abonie, Ulric S.;Saxton, John;Baker, Katherine and Hettinga, Florentina J.





Publication Date: 2021

Journal: Clinical Rehabilitation 35(12), pp. 1781–1788

Abstract: Objective: To examine the association between self-reported activity pacing (a strategy to manage fatigue symptoms) and objectively-measured physical activity behaviours in adults with multiple sclerosis.; Design: Single cross-sectional study.; Setting: Multiple sclerosis rehabilitation centre in Colchester, United Kingdom.; Subjects: Twenty-one adults (59 ± 9 years) with multiple sclerosis.; Main Measures: Physical activity behaviours (activity level: activity counts per minute; activity variability: highest activity counts per minute each day divided by activity counts per minute on that day) were measured with accelerometers. Self-reported activity pacing (Activity Pacing and Risk of Overactivity Questionnaire), fatigue severity (Fatigue Severity Scale) and health-related quality of life (RAND-12-Item Short-Form Health Survey) were measured. Scatter plots were used to explore associations between measures.; Results: Activity level was 258 ± 133 counts per minutes, activity variability was 4 ± 1 , self-reported activity pacing was 3 ± 1 , fatigue severity was 5 ± 2 and health-related quality of life was 43 ± 8 . Increased self-reported activity pacing was associated with lower activity levels and less variability in daily activities.; Conclusion: This investigation suggests that people with multiple sclerosis who have low physical activity levels could be inappropriately using activity pacing as a reactionary response to their multiple sclerosis symptoms.

[The "Managing Fatigue" programme for people with multiple sclerosis - acceptance and feasibility with Swedish occupational therapists](#)

Authors: Månsson Lexell, Eva; Haglund, Lena and Packer, Tanya

Publication Date: 2020

Journal: Scandinavian Journal of Occupational Therapy 27(7), pp. 536–549

Abstract: Background: Fatigue is common among people with multiple sclerosis (MS), and significantly influences engagement in occupations. The Managing Fatigue (MF) programme is an evidence-based occupational therapy group-based intervention, utilising self-management science that provides people with tools to manage fatigue. Although the national MS-guidelines in Sweden cite this as best practice, a Swedish version is not available. Aim: To translate and investigate the feasibility of a Swedish MF programme delivered by occupational therapists working with MS clients in Sweden. Material and methods: We used a mixed-methods design. Eight recruited occupational therapists, participated in a workshop prior to delivering the MF programme. Following programme delivery, they completed a questionnaire and participated in focus group interviews. Results: Each therapist conducted one programme with 5-9 MS clients. Overall, therapists were satisfied with programme content, and delivery was followed. Minor improvements were suggested, specifically in relation to how cognitive fatigue can be managed. Therapists acknowledged challenges moving from "expert" to supporting self-management. Conclusion: The MF programme is feasible in Sweden, and its client-centred and occupation focus is consistent with therapists' scope of practice. In the future, acceptability and satisfaction from the perspectives of MS participants should be examined. Larger, more robust intervention studies evaluating effectiveness are also warranted.

[Training and delivery of a novel fatigue intervention: a qualitative study of rheumatology health-care professionals' experiences](#)





Authors: Dures, Emma;Rooke, Clive;Hammond, Alison and Hewlett, Sarah

Publication Date: 2019

Journal: Rheumatology Advances in Practice 3(2), pp. rkz032

Abstract: Objectives: Successful, non-pharmacological research interventions are challenging to implement in clinical practice. The aim of the study was to understand the experiences of rheumatology nurses and occupational therapists (tutors) delivering a novel fatigue intervention in a trial setting, and their views on requirements for clinical implementation. After training, tutors delivered courses of a manualized group cognitive-behavioural intervention to patients with RA in a seven-centre randomized controlled trial Reducing Arthritis Fatigue by clinical Teams using cognitive-behavioural approaches (RAFT)], which demonstrated reduced fatigue impact at 2 years.; Methods: Fourteen tutors participated in interviews, and eight tutors also participated in a focus group. Data were audio-recorded, transcribed and analysed using inductive thematic analysis.; Results: The following five main themes were identified: 'exciting but daunting' reflected the mixture of excitement and anxiety in intervention training and delivery; 'skills practice and demonstrations were essential' captured the value of learning and practising together, even though the process could be uncomfortable; 'an individual approach to a standardized intervention' showed how tutors negotiated adherence to the manual with delivery using their own words; 'becoming a better practitioner' described how participation enhanced tutors' wider clinical practice; and 'pragmatic and flexible' highlighted practical adaptations to facilitate training and intervention roll out.; Conclusion: These insights inform strategies for clinical implementation of an evidence-based intervention that addresses a patient priority, with implications for other successful research interventions. Tutors believed that the skills acquired during RAFT enhanced their wider clinical practice, which highlights the benefits of upskilling members of clinical teams to provide self-management support to patients.

[Improving fatigue in multiple sclerosis by smartphone-supported energy management: The MS TeleCoach feasibility study](#)

Authors: D'hooghe, Marie;Van Gassen, Geert;Kos, Daphne;Bouquiaux, Olivier;Cambron, Melissa;Decoo, Danny;Lysandropoulos, Andreas;Van Wijmeersch, Bart;Willekens, Barbara;Penner, Iris-Katharina and Nagels, Guy

Publication Date: 2018

Journal: Multiple Sclerosis and Related Disorders 22, pp. 90–96

Abstract: Background: Fatigue is a frequently occurring, often disabling symptom in MS with no single effective treatment. In current fatigue management interventions, personalized, real-time follow-up is often lacking. The objective of the study is to assess the feasibility of the MS TeleCoach, a novel intervention offering telemonitoring of fatigue and telecoaching of physical activity and energy management in persons with MS (pwMS) over a 12-week period. The goal of the MS TeleCoach, conceived as a combination of monitoring, self-management and motivational messages, is to enhance levels of physical activity thereby improving fatigue in pwMS in an accessible and interactive way, reinforcing self-management of patients.; Methods: We conducted a prospective, open-label feasibility study of the MS TeleCoach in pwMS with Expanded Disability Status Scale ≤ 4 and moderate to severe fatigue as measured by the Fatigue Scale for Motor and Cognitive Functions (FSMC). Following a 2-week run-in period to assess the baseline activity level per patient, the target number of activity counts was gradually increased over the 12-week period





through telecoaching. The primary efficacy outcome was change in FSMC total score from baseline to study end. A subset of patients was asked to fill in D-QUEST 2.0, a usability questionnaire, to evaluate the satisfaction with the MS TeleCoach device and the experienced service.; Results: Seventy-five patients were recruited from 16 centres in Belgium, of which 57 patients (76%) completed the study. FSMC total score ($p = 0.009$) and motor and cognitive subscores ($p = 0.007$ and $p = 0.02$ respectively) decreased from baseline to week 12, indicating an improvement in fatigue. One third of participants with severe fatigue changed to a lower FSMC category for both FSMC total score and subscores. The post-study evaluation of patient satisfaction showed that the intervention was well accepted and that patients were very satisfied with the quality of the professional services.; Conclusion: Using MS TeleCoach as a self-management tool in pwMS suffering from mild disability and moderate to severe fatigue appeared to be feasible, both technically and from a content perspective. Its use was associated with improved fatigue levels in the participants who completed the study. The MS Telecoach seems to meet the need for a low-cost, accessible and interactive self-management tool in MS. (Copyright © 2018 The Authors. Published by Elsevier B.V. All rights reserved.)

[Randomised controlled trial of a self-guided online fatigue intervention in multiple sclerosis](#)

Authors: Pöttgen, Jana;Moss-Morris, Rona;Wendebourg, Janina-Maria;Feddersen, Lena;Lau, Stefanie;Köpke, Sascha;Meyer, Björn;Friede, Tim;Penner, Iris-Katharina;Heesen, Christoph and Gold, Stefan M.

Publication Date: 2018

Journal: Journal of Neurology, Neurosurgery, and Psychiatry 89(9), pp. 970–976

Abstract: Objective: Fatigue is a major disabling symptom in many chronic diseases including multiple sclerosis (MS), but treatment options are limited. Here, we tested the effectiveness of a self-guided, interactive, online fatigue management programme (ELEVIDA) based on principles of cognitive behavioural therapy (CBT) and related psychotherapeutic approaches (eg, mindfulness) for reducing fatigue in MS.; Methods: Patients with MS and self-reported fatigue were recruited via the website of the German MS Society and assigned via an automated randomisation generator (1:1, no blocking or stratification) to a 12-week online intervention (ELEVIDA, $n=139$, 82% female, mean age 40.8, median patient determined disease steps (PDDS) 3.0) or a waitlist control group ($n=136$, 79% female, mean age 41.9, median PDDS 3.0). The primary outcome was the Chalder Fatigue Scale. Outcomes were assessed at baseline, at week 12 (postintervention) and at follow-up (week 24).; Results: Compared with the control group, significantly greater reductions in Chalder Fatigue Scale scores were seen in the ELEVIDA group at week 12 (primary endpoint, intention-to-treat analysis: between-group mean difference 2.74 points; 95% CI 1.16 to 4.32; $p=0.0007$; effect size $d=0.53$), with effects sustained at week 24 (intention-to-treat analysis: between-group mean difference 2.19 points; 95% CI 0.57 to 3.82; $p=0.0080$).; Conclusions: Our trial provides evidence for the effectiveness of a self-guided, internet-based intervention to reduce fatigue in MS. Interventions such as ELEVIDA may be a suitable low barrier, cost-effective treatment option for MS fatigue.; Trial Registration Number: ISRCTN registry (number ISRCTN25692173). (© Article author(s) (or their employer(s) unless otherwise stated in the text of the article) 2018. All rights reserved. No commercial use is permitted unless otherwise expressly granted.)

[A New Zealand pilot randomized controlled trial of a web-based interactive self-management programme \(MSInvigor8\) with and without email support for the](#)





[treatment of multiple sclerosis fatigue](#)

Authors: van Kessel, Kirsten;Wouldes, Trecia and Moss-Morris, Rona

Publication Date: 2016

Journal: Clinical Rehabilitation 30(5), pp. 454–462

Abstract: Objective: To pilot and compare the efficacy of an internet-based cognitive behavioural therapy self-management programme with (MSInvigor8-Plus) and without (MSInvigor8-Only) the use of email support in reducing fatigue severity and impact (primary outcomes), and depressed and anxious mood (secondary outcomes).; Design: Randomized controlled trial using an independent randomization system built into the website and intention-to-treat analysis.; Setting: Participants were recruited through the local Multiple Sclerosis Society and hospital neurological services in New Zealand.; Subjects: A total of 39 people (aged 31-63 years), experiencing multiple sclerosis fatigue, able to walk with and without walking aids, were randomized to MSInvigor8-Only (n = 20) or to MSInvigor8-Plus (n = 19).; Interventions: MSInvigor8 is an eight-session programme based on cognitive behaviour therapy principles including psycho-education, self-monitoring, and changing unhelpful activity and thought patterns.; Main Measures: Outcome measures included fatigue severity (Chalder Fatigue Scale) and impact (Modified Fatigue Impact Scale), and anxiety and depression (Hospital Anxiety and Depression Scale). Assessments were performed at baseline and at 10 weeks.; Results: The MSInvigor8-Plus condition resulted in significantly greater reductions in fatigue severity ($F_{1,36} = 9.09, p < 0.01$) and impact ($F_{1,36} = 6.03, p < 0.02$) compared with the MSInvigor8-Only condition. Large between-group effect sizes for fatigue severity ($d = 0.99$) and fatigue impact ($d = 0.81$) were obtained. No significant differences were found between the groups on changes in anxiety and depression.; Conclusions: MSInvigor8 delivered with email-based support is a potentially promising, acceptable, and cost-effective approach to treating fatigue in people with multiple sclerosis in New Zealand. (© The Author(s) 2015.)

[Cost effectiveness of a pragmatic exercise intervention \(EXIMS\) for people with multiple sclerosis: economic evaluation of a randomised controlled trial](#)

Authors: Tosh, J.;Dixon, S.;Carter, A.;Daley, A.;Petty, J.;Roalfe, A.;Sharrack, B. and Saxton, J. M.

Publication Date: 2014

Journal: Multiple Sclerosis (Houndmills, Basingstoke, England) 20(8), pp. 1123–1130

Abstract: Background: Exercise is a safe, non-pharmacological adjunctive treatment for people with multiple sclerosis but cost-effective approaches to implementing exercise within health care settings are needed.; Objective: The objective of this paper is to assess the cost effectiveness of a pragmatic exercise intervention in conjunction with usual care compared to usual care only in people with mild to moderate multiple sclerosis.; Methods: A cost-utility analysis of a pragmatic randomised controlled trial over nine months of follow-up was conducted. A total of 120 people with multiple sclerosis were randomised (1:1) to the intervention or usual care. Exercising participants received 18 supervised and 18 home exercise sessions over 12 weeks. The primary outcome for the cost utility analysis was the incremental cost per quality-adjusted life year (QALY) gained, calculated using utilities measured by the EQ-5D questionnaire.; Results: The incremental cost per QALY of the intervention was £10,137 per QALY gained compared to usual care. The probability of being cost effective at a £20,000 per QALY threshold was 0.75, rising to 0.78 at a £30,000 per





QALY threshold.; Conclusion: The pragmatic exercise intervention is highly likely to be cost effective at current established thresholds, and there is scope for it to be tailored to particular sub-groups of patients or services to reduce its cost impact. (© The Author(s) 2013.)





Reports & Opinion

Community Worker Business Proposal

Author: Multiple Sclerosis Society of Ireland

Date: 2025

Source: Multiple Sclerosis Society of Ireland

Executive Summary As the national organisation responsible for the provision of services to people with Multiple Sclerosis (PwMS), the Multiple Sclerosis Society of Ireland (MS Ireland) is seeking €72,997.56 (€65,674.82 salary and Employers PRSI €7,322.74) to provide one full-time Community Worker covering counties Sligo and Leitrim. MS Ireland currently provides a Community Work service in all counties in the Republic of Ireland, except for Sligo and Leitrim. The primary activity of the Community Worker Service is casework for people with MS, offering crucial individual and family support, advocacy, and referrals to other services. In addition to casework services PwMS will have access to a suite of other services including respite, physiotherapy, fatigue management and other evidence-based programmes. In Sligo/Leitrim, where a significant number of PwMS are registered with MS Ireland, there is no dedicated Community Worker, leaving only limited phone-based support available. It is estimated based on CSO population data, that there are over 300 people living with MS in Sligo and Leitrim, 122 of those are already known to MS Ireland's services. The Community Worker service will enable:

- Comprehensive casework support for PwMS and their families, addressing needs from diagnosis through the progression of the disease.
- Improved access to early intervention services, which are proven to result in better outcomes for PwMS.
- Reduced pressure on other healthcare professionals, including G.P's, Case Managers, Occupational Therapists, and Social Workers, as the Community Worker will manage tasks more suited to this specialised role.
- Stronger collaboration with HSE and statutory services in Sligo/Leitrim, in line with the Sláintecare objective of delivering integrated, accessible, and locally planned services.
- Enhanced visibility and impact of MS Ireland's services in the Northwest Region.
- Opportunity to avail of MS Ireland's other services e.g. respite, physiotherapy, social supports etc.

Multiple Sclerosis (MS) is a complex lifelong neurological condition that requires ongoing support and intervention for those affected. No two people with MS experience MS in the same way. The Community Worker will provide tailored support in areas such as symptom management, employment, housing, education, and emotional well-being. They will advocate on behalf of PwMS, make necessary referrals, and offer holistic, solution-focused support that addresses the physical, mental, and emotional needs of PwMS. The proposed extension of services aligns with Sláintecare's vision of providing the right care in the right place at the right time. There are 19 MS Ireland Community Workers (16 whole time equivalents) working across the rest of the country. In 2024, 2538 people with MS received a 1:1 casework service. In 2024, the number of new referrals to the Community Worker service increased by 26%. Prevalence rates for MS are rising globally and Ireland is no exception. The reasons for increased prevalence are multifactorial and likely include better diagnostic tools, rising incidence of autoimmune conditions and environmental factors. The HSE Capacity Review, Sláintecare Report and Neurorehabilitation Strategy's underlying principle is that services must be integrated, proactive and community-based with an emphasis on planned models of care.

MS Ireland





[Exploring Occupational Therapy Interventions for People with Multiple Sclerosis within Instrumental Activities of Daily Living](#)

Author: Christopher Walshaw

Date: 2022

Source: University of Huddersfield

Abstract:

Introduction: Multiple Sclerosis (MS) is an unpredictable progressive neurological condition that has a profound impact on the ability of people to engage and participation in occupations from onset which often occurs in early adulthood. At this stage of life Instrumental Activities of Daily Living (IADL), based in domestic and community contexts, constitute a complex and demanding group of occupations that contribute to occupational identity. Occupational therapy interventions have a complex role in enabling people with MS to engage and participate in purposeful and meaningful occupations such as IADL. Adopting a person-centred theoretical lens, the study reported in this thesis explored the experiences and perceptions of IADL and the occupational therapy interventions of five people with multiple sclerosis in the practice context of a community neurology team.

Methods: The research design consisted of a multiple case study incorporating mixed methods to collect predominantly qualitative data. A novel methodological approach adopted a world view influenced by pragmatism and critical realism. The Assessment of Motor and Process Skills (AMPS) providing case attributes that measured occupational performance in IADL. Semi-structured interviews were then conducted with the people with MS, their carers, occupational therapist, and other healthcare professionals. A questionnaire was also administered to the occupational therapists. The framework approach was applied to analyse the data systematically and robustly. Computer assisted qualitative data analysis software (NVivo) was used to manage data. Presentation of the framework analysis was supplemented by case summaries illuminating the narratives of the five people with MS.

Findings: Four core concepts were identified. The Person Living with MS represented the understanding of the impact of MS on occupational performance in IADL. The Occupations core concept demonstrated the variety of IADL participation and linkage to other groups of occupations. Occupational Therapy Interventions for People with MS revealed professional reasoning and featured fatigue management strategies, environmental interventions, and psychological interventions. The social context of Interrelationships with other significant people and the MDT to support and enhance occupational performance was also identified. Development of a therapeutic partnership, that listens to and respects the diagnostic narrative of the person with MS, enables personalised interventions to support and empower participation in IADL and other occupations. The contemporary MS person-centred occupational therapy (MS-PcOT) practice model was constructed as a synthesis of the findings.

Conclusion: Occupational therapy interventions have a multi-faceted role in enabling people with MS to participate in occupations they want, need, and expect to do. The findings





contribute new knowledge of professional reasoning in occupational therapy practice for people with MS. The findings also contribute to the understanding of experiences and perception of occupations in the domestic lives of people with MS. The MS-PcOT practice model is a person-centred and occupation based guide for occupational therapy practice. The model incorporates integrated and coordinated interdisciplinary practice to support people with MS in their daily occupations and maintain health and well-being.

[The multiple sclerosis continuous quality improvement collaborative \(MSCQI\): interim results of the 3-year multi-center prospective step-wedge randomized research study](#)

Author: Brant Oliver

Date: 2019

Source: BMJ Open Quality

Abstract:

Background MS-CQI is the first multi-center, randomized research study aiming to improve population health outcomes for people with multiple sclerosis (MS) using quality improvement (QI).

Objectives (1) benchmark performance and study variation in utilization and outcomes; (2) provide performance feedback to MS centers; and (3) compare effectiveness of QI versus usual care controls on improving outcomes.

Methods Four centers are participating following approximately 5,000 people with MS. We collect 21 Patient Reported Outcome Measures (PROMs) and 11 Electronic Health Record (EHR) measures. System-level de-identified EHR data is collected for all clinical encounters. Individual-level PROM data is collected from participants who consent. Centers are randomized to QI or usual care following a step-wedge randomized design beginning in Year 2.

Results MSCQI has recently completed Year 2. At the end of Year 1, EHR n=2,755 encounters, and PROM n=269 individuals ([tables 1–3](#)). There is significant variation in EHR findings, including proportion of patients on disease modifying therapy (DMT), MRI, ED, hospitalizations, urgent care, and relapses ([table 2](#)), as well as PROM findings ([table 3](#)) including depression, fatigue, cognition, sleep, communication, and work-related impairment. In Year 2, the first center (Center C) was randomized to QI. Center C has higher average depression and fatigue severity than the Collaborative, but has realized a reduction in quarterly relapse rate since beginning QI intervention in Quarter 4 ([figure 1](#)).

[Rethinking MS IN Europe: prioritising integrated services for people with multiple sclerosis](#)

Author: European Brain Council

Date: 2019





Source: Health Policy Partnership

Multiple sclerosis (MS) is a neurological disorder that exists at a critical intersection of healthcare, social welfare and employment policies. As a chronic neurodegenerative condition with onset at a young age – most people are diagnosed between 20 and 40 years old – it places unique challenges on health and social care systems. People with MS ought to be able to study, work, have families and travel the world as they wish. However, the current provision of care does not tend to facilitate such ambitions. There is no ‘gold standard’ of MS care, as it must always be adapted to each person’s unpredictable and changing healthcare needs. Optimal care is multifaceted, requiring regular interdisciplinary input with proactive and person-centred approaches. Despite improvements and innovation in recent years, people with MS face staggering variations in access to disease-modifying therapies, symptomatic treatments, rehabilitation and practical and emotional support. We must ensure that every person with MS in Europe has their needs met for timely diagnosis and personalised treatment, interdisciplinary and coordinated care, and adaptable support in daily life. To achieve this, we need to seamlessly blend healthcare, social care and rehabilitation in a way that truly meets each individual’s unique set of needs, goals and circumstances. We must better understand how the condition affects people and their families on a day-to-day basis, and respond with support in kind. We should consider how to personalise care and facilitate greater collaboration between the person with MS and their interdisciplinary team. RETHINKING MS in Europe provides insights into these common unmet needs and challenges, and clarifies why we need to rethink MS to provide optimal care. It presents the ambition and rationale across Europe, which is subsequently distilled into national-level priorities in the RETHINKING MS country briefs and operationalised in the RETHINKING MS policy assessment tool. With this project, we are calling for all policymakers, decision-makers, members of the interdisciplinary MS team and patient advocates to come together and reassess how care can be better organised – to benefit people with MS, the health and social care systems, and society as a whole.






OFFICE USE ONLY

Keywords/search strategy	Limits used
Multiple Sclerosis or MS Neurodegenerative diseases, Parkinson's Interventions, projects or pilot Fatigue, fatiguability or exhaustion Cost-effective, business plan	Search within last 10 years

Databases/sources used		
<input type="checkbox"/> Pubmed	<input type="checkbox"/> HMIC	<input checked="" type="checkbox"/> BMJ Best Practice
<input checked="" type="checkbox"/> MEDLINE	<input type="checkbox"/> Social Policy & Practice	<input type="checkbox"/> UpToDate
<input type="checkbox"/> Emcare	<input type="checkbox"/> CINAHL	<input type="checkbox"/> Trip Pro
<input type="checkbox"/> Embase	<input type="checkbox"/> PscyINFO	<input type="checkbox"/> Cochrane Library
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