

# BARRIERS TO AND FACILITATORS FOR INVOLVING CLINICAL STAFF MEMBERS IN MANAGING PATIENTS WITH MUSCULOSKELETAL DISORDERS IN GENERAL PRACTICE

– a systematic review

In Denmark, musculoskeletal (MSK) pain is the most common reason for consultations in general practice. Despite the high frequency of MSK consultations, patients do not always receive guideline concordant support to self-manage their condition and advice to stay physically active. Clinical staff might be able to assist with this. The aim of this project is to describe the barriers to and the facilitators for involving clinical staff in MSK management in general practice through a systematic review. We found that although physiotherapists possess the necessary skills to deal with MSK pain, they lack the competencies to handle patients with multimorbidity and patients without MSK-related conditions in order to obtain a holistic approach of patients in general practice. Also, nurses need training, especially in delivering basic MSK counselling, which includes advising patients to stay active as well as avoid bedrest and pain killers as stand-alone treatment strategies. Therefore, we conclude that involving physiotherapists and nurses in MSK pain management is believed to increase the quality of MSK care, while the lack of skills to take a holistic view is a perceived barrier. More studies are needed to inform educational programmes for physiotherapists and nurses to manage MSK disorders in general practice.

## FORFATTERE

**Allan Riis**, Senior lecturer, Department of Physiotherapy, UCN, and Associate professor, Center for General Practice at Aalborg University.

**Camilla Hofmann Merrild**, Center for General Practice at Aalborg University.

**Josephine Nielsen**, Senior lecturer, Department of Physiotherapy, UCN.

**Tamana Afzali**, Center for General Practice at Aalborg University.

**Michael Skovdal Rathleff**, Professor, Center for General Practice at Aalborg University and Health Science and Technology, Aalborg University.

**Cathrine Elgaard Jensen**, Associate professor, Danish Center for Health Services Research, Department of Clinical Medicine, Aalborg University.

**Janus Laust Thomsen**, Professor, Center for General Practice at Aalborg University.

## INTRODUCTION

In Denmark, musculoskeletal (MSK) pain is the most common reason that patients consult their general practitioner (Mairey et al., 2022). The number of years lived with disability caused by MSK pain is extraordinarily high in Denmark compared to all other countries; however, MSK pain is also the leading cause of disability in most industrialised countries (Vlaeyen et al., 2018).

Treatment based on clinical guidelines has the potential to improve MSK pain management (National Institute for Health and Care Excellence, 2014). Patient education should focus particularly on dispelling misinformation about MSK disorders and highlighting the safety and value of physiotherapist-delivered exercise therapy (Wallis et al., 2020). Since staying active, limiting bedrest and avoiding long sick leaves are cornerstone recommendations for people with MSK pain (Wallis et al., 2020), this review uses a broad definition of physical activity that includes maintaining activities performed before experiencing pain, avoiding too much bedrest, limiting sick leave and performing additional physical activities initiated by healthcare professionals.

High workloads and limited time available for general practice consultations are argued to challenge the delivery of guideline concordant advice to stay physically active and the provision of tools to help patients self-manage their pain (Irving et al., 2017). In Denmark, an intervention in general practice aimed at strengthening primary care treatment by supporting the implementation of guidelines was found to halve the frequency of low back pain imaging requests and referrals to secondary care as well as to reduce costs (£-93.20 per patient). Patients' functional outcomes tended to improve as a result (Riis et al., 2016). The above-mentioned intervention to improve the treatment of MSK pain in primary care may be further strengthened if clinical staff other than general practitioners are included in multidisciplinary MSK teams (Riis et al., 2019), thereby utilising the increasing number of available clinical staff (Maier et al., 2016). Involving other clinical staff in managing patients with life-style diseases such as diabetes and

hypertension has previously been found feasible (Fu et al., 2018; Maier et al., 2016). Consequently, MSK pain management that involves other clinical staff who can provide patients with knowledge and information to self-manage their conditions and stay physically active may be equally relevant. This, however, requires a shift from the traditional division of tasks whose barriers and facilitators are currently unknown.

The aim of this study is to describe the barriers to and the facilitators for involving clinical staff such as practice nurses, physiotherapists and medical trainees (all staff other than general practitioners) in managing patients with MSK disorders in general practice.

## METHODS

To synthesize the existing research knowledge of including other clinical staff in general practice in managing MSK pain, we conducted a systematic review of the barriers to and the facilitators for involving other staff groups than general practitioners in the management of MSK pain in general practice. The project was pre-registered in PROSPERO (CRD42019130001). This online platform, developed and maintained by the University of York Centre for Reviews and Dissemination, is an international database of prospectively registered systematic health and social care reviews. Its aim is to provide a comprehensive listing of systematic reviews registered at the protocol stage, thus helping to reduce the duplication of

the conducted systematic reviews and their reporting as well as improving their transparency.

## Searches

A systematic literature search was conducted in the following databases: PubMed, Embase, Cinahl, Cochrane, Pedro and Scopus from inception to 2019. The reporting followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, and the review includes studies written in English, Danish, Swedish, and Norwegian. For each database, a specific search strategy was developed using thesaurus terms, which are terms used in databases to give consistent labels to articles describing the same concept but in different ways. We searched for terms related to musculoskeletal pain, delegation of tasks, general practice and clinical staff members. The thesaurus terms used in this project were combined with free text search.

The search results were managed in Covidence software, and duplicates were removed by means of the Systematic Review Assistant-Deduplication Module. Initially, and to ensure all relevant studies were included in the review, two independent reviewers (TA and AR) screened the articles based on title and abstract against the inclusion and exclusion criteria (described below). Any disagreements were resolved through team discussion and consensus with a third review member (JLT). Articles passing the initial selection were critically

appraised by two reviewers (TA and AR) based on full texts for final eligibility. Again, any disagreements were resolved through team discussions and in consensus with a third review member (JLT).

### Condition being studied

We search for articles where MSK disorders are defined as injuries and disorders that affect the human body's movement or musculoskeletal system (muscles, tendons, ligaments, nerves, discs, blood vessels, etc.). In Denmark, MSK pain is a common reason for patients to seek treatment in general practice and constitutes a significant part of the consultations. In Denmark, general practice is defined as a workplace where a general practitioner treats local residents and deals with conditions that do not require a hospital visit. General practices or other primary care physician health care providers working side by side with clinical staff members include: primary care nurses, physician assistants, and advanced physiotherapists in general practice.

### Intervention

We included studies in which general practitioners (GPs) initially evaluate and diagnose patients with MSK disorders prior to engaging any clinical staff involved in the patients' follow-up consultations. This is compared with usual care involving clinical staff or no comparator.

### Types of study to be included

The studies included fulfilled the following criteria:

1. Full-text paper published in peer-reviewed journal
2. Qualitative articles or quantitative studies
3. Studies including patients with MSK disorders in general practice
4. Involving clinical staff members (other than GPs) in managing and/or advising patients
5. Studies performed in general practice
6. Patient population  $\geq 13$  years of age
7. All primary studies reporting on an intervention including clinical staff, regardless of study design.

Studies were excluded on the basis of the following criteria:

1. Reviews, audits, conference abstracts, grey literature (examples of grey literature include reports, theses, dissertations, official documents, informal communication and research in progress) and non-peer-reviewed articles
2. Studies performed outside general practice
3. Studies including children (up to 12 years of age)

### Outcome and context

The outcome was to identify perceived barriers to and facilitators for involving clinical staff other than general practitioners in managing patients with MSK disorders in general practice clinics. We use a broad definition of barriers and facilitators as any arguments used by authors for involving clinical staff in managing MSK disorders. Authors do not need to use the terms barriers and facilitators in their articles.

### Data extraction

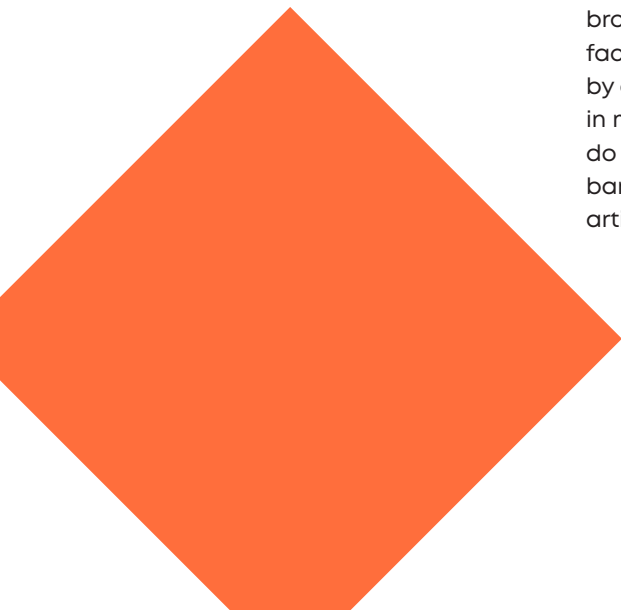
From the included studies, we extracted information about: the characteristics of the included studies; date of publication; country where the study was conducted; study design; study aim; setting, condition and duration; intervention(s); number of participants; follow-up periods; and barriers to and facilitators for involving others in the treatment of MSK disorders in general practice. Data was extracted by two independent reviewers (JN and AR for quantitative studies, CM and AR for qualitative studies) and consensus was reached with a third reviewer (JLT) in the event of disagreement.

### Strategy for data synthesis

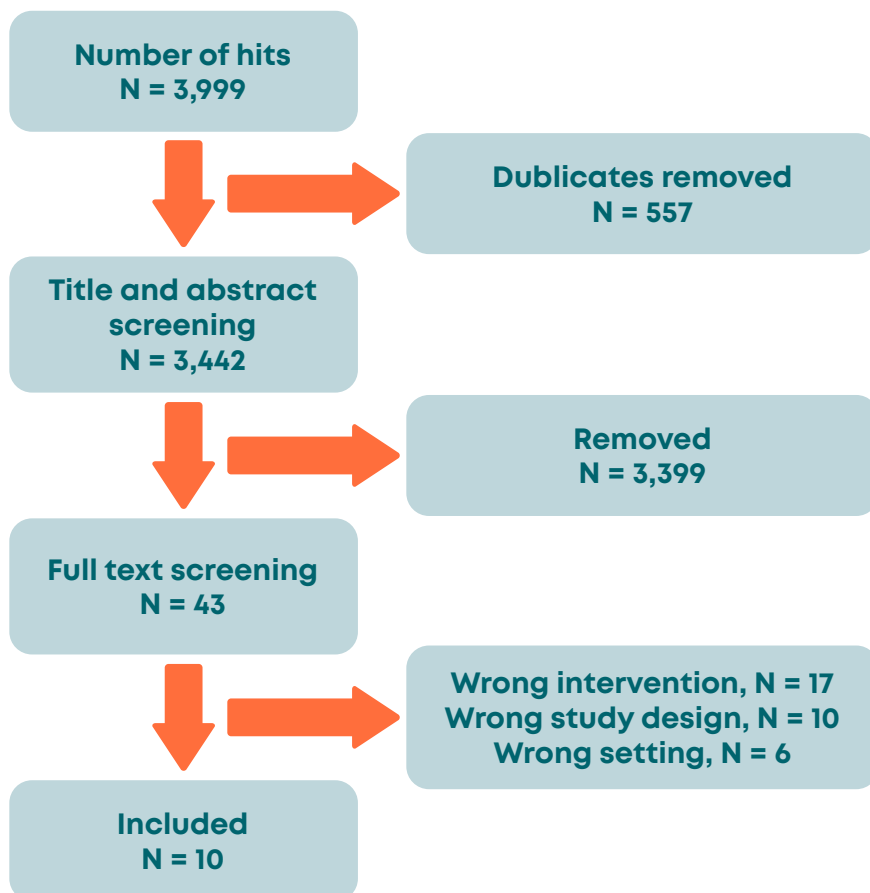
We conducted a descriptive analysis of the included data, with the results reported in the conclusion sections of the included studies weighted in the narrative description. The included studies varied in design, and we did not consider it feasible to conduct a quantitative meta-analysis.

## RESULTS

Of the 3,999 articles identified, 557 were duplicates, which left 3,442 articles for screening. Following screening, ten articles were eligible for inclusion in the review (Figure): six articles from the UK (Breen et al., 2004; Healey et al., 2016; Jones et al., 2002; Langridge, 2019; Minns & Bithell, 1998; Moffatt et al., 2018), one from the USA (Greenfield et al., 1975), one from Canada (Dufour et al., 2014), and two articles originating from the same German study (Becker et al., 2008, 2012).



## STUDY SELECTION



NOTE: Flowchart of the screening process. The authors created the figure in 2022.

### Barriers to and facilitators for involving clinical staff in managing musculoskeletal disorders

Two qualitative interview studies of physiotherapists, general practitioners, nurses and administrative staff investigated the use of physiotherapists in general practice in caring for patients with musculoskeletal problems (Langridge, 2019; Moffatt et al., 2018). These studies pointed out how some of the barriers to implementing care related to the skills, attributes and knowledge of the clinical staff. These barriers primarily concerned the challenges of medically assessing the primary care patient. Such an assessment involves insight into the complexities of multimorbidity, multiple drug prescriptions and interactions, and as such requires a broader knowledge of clinical

presentations (Langridge, 2019). Moreover, the high-speed turnaround of patients in general practice was found to leave limited time for assessment. Combined with a high level of uncertainty due to the wide range of clinical problems in primary care, this results in a different work environment from that to which advanced musculoskeletal care professionals are accustomed (Langridge, 2019; Minns & Bithell, 1998). It was also pointed out that due to the complexity of the patients' health issues in general practice, secretaries found it difficult to categorise which patients had MSK issues, and GPs risked weakening their MSK care skills if they did not have regular consultations with this group of patients. On the other hand, the use of physiotherapists could also

enhance general practitioners' MSK care skills (Moffatt et al., 2018). Both studies, however, stressed the need for advanced level, experienced physiotherapists due to the complexity of patients in primary care (Langridge, 2019; Moffatt et al., 2018). In Canada, however, a qualitative study of 20 general practitioners and nurse practitioners found the lack of physiotherapists on current treatment teams to be a major deficiency in service provision and ultimately a barrier to delivering optimal care (Dufour et al., 2014).

Two qualitative studies investigated the use of nurses in the management of low back pain in general practice (Breen et al., 2004; Greenfield et al., 1975). A somewhat older study designed to test the validity of a nurse-administered protocol for low back pain showed that patients expressed great satisfaction with the nurse-led care they had received, without having been seen by the doctor (Greenfield et al., 1975). However, in a pilot study from 2004, it was pointed out that one barrier related to implementing nurse-led consultation for acute back pain patients could be that nurses were already too busy, and that such consultations might detract nurses from providing holistic care (Breen et al., 2004). However, after receiving a training programme for managing MSK in the UK, nurses were more aware of different options for treating MSK problems and felt better equipped to support physical activity and patients' self-management (Healey et al., 2016).

A randomized controlled trial of a nurse-delivered educational package to patients found that involving clinical staff members reduced chronic oral non-steroidal anti-inflammatory drug (NSAID) usage in general practice and could facilitate long-term cost savings (Jones et al., 2002). In Germany, knowledge provided by general practitioners in combination with motivational counselling

by practice nurses was found more effective in increasing the patients' physical capacity and reducing their low back pain than a stand-alone educational programme for general practice. This indicates that active implementation strategies can facilitate implementation of guideline concordant treatment (Becker et al., 2008). The intervention was, furthermore, found to be cost-effective in terms of both better treatment results and lower overall cost from a societal perspective (Becker et al., 2012).

### CONCLUSION

Involving other staff members like physiotherapists and nurses in the management of MSK disorders is believed to have the potential to improve the quality of MSK care in general practice and support patients in being physically active. However, training in conducting general medical patient assessments is needed together with experience in taking a holistic approach to the patients in general practice, since patients often present with multimorbidity. More studies are needed, especially in the concrete content of training programmes for physiotherapists and nurses to manage MSK disorders in general practice.

### DISCUSSION

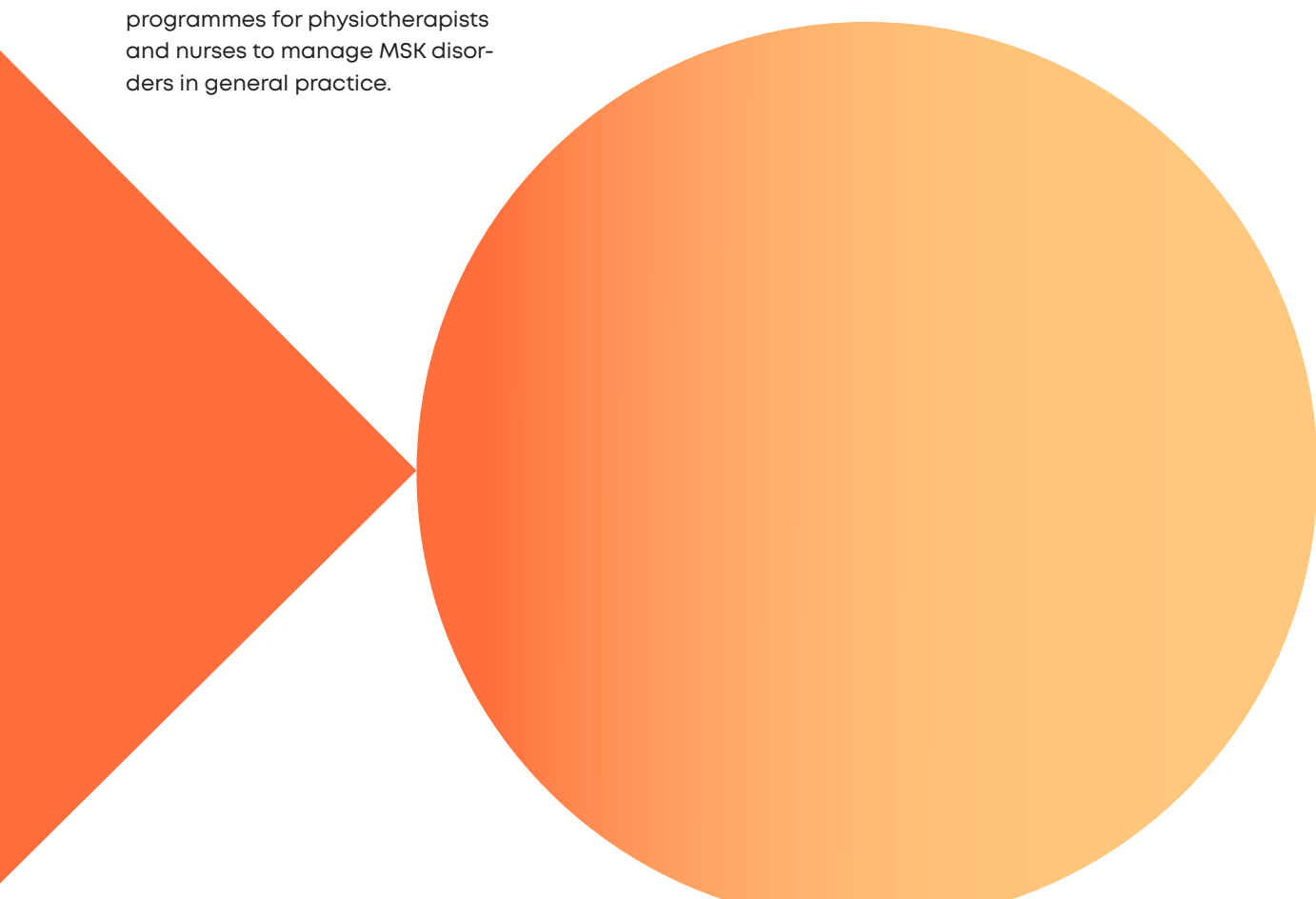
The body of evidence on the effect and experiences of involving physiotherapists, practice nurses and other clinical staff in managing MSK disorders in general practice is limited. The evidence originates from a variety of study designs, and some of the included studies are old. The content of the guidelines for treating MSK disorders has changed in recent decades, and the organization of general practice is also changing, with a tendency for larger clinics and a higher use of interprofessional teams. Therefore, the findings originating from older studies in this review must be interpreted with caution. However, the existing studies originate from healthcare settings similar to Danish general practice, and the results can thus with some caution be transferred to Denmark. This review uses secondary published data, and this design carries no risk of ethical misconduct. However, reporting on others' work indirectly spreads their data. This can lead to some drawbacks, especially if the quality of the included studies

is not assessed, since reviews may include studies with ethical insufficiencies and may also be prone to conflicts of interest. To our knowledge this is not the case with the studies included in this systematic review, but the broad scope of the review, coupled with the heterogeneous use of outcome measures, means we have not assessed the quality of the included studies

This review reports on the primary outcome from the PROSPERO registration. However, the limited studies, variation in outcome measures and differences in follow-up periods have led us to avoid reporting quantitative estimates. Also, we have not reported on the pre-registered outcome measures for coordination in the clinic teamwork, the organization of the clinic and adverse events. This can be considered a limitation of the review. The broad scope of the outcomes in the review led us to avoid reporting the quality of studies.

### FUNDING

This study was funded by A.P. Møller and Chastine Mc-Kinney Møller Foundation.



## References

- Becker, A., Held, H., Redaelli, M., Chenot, J. F., Leonhardt, C., Keller, S., Baum, E., Pflingsten, M., Hildebrandt, J., Basler, H. D., Kochen, M. M., Donner-Banzhoff, N., & Strauch, K. (2012). Implementation of a guideline for low back pain management in primary care: A cost-effectiveness analysis. *Spine*, 37(8). <https://doi.org/10.1097/BRS.0b013e31822b01bd>
- Becker, A., Leonhardt, C., Kochen, M. M., Keller, S., Wegscheider, K., Baum, E., Donner-Banzhoff, N., Pflingsten, M., Hildebrandt, J., Basler, H. D., & Chenot, J. F. (2008). Effects of two guideline implementation strategies on patient outcomes in primary care: A cluster randomized controlled trial. *Spine*, 33(5). <https://doi.org/10.1097/BRS.0b013e3181657e0d>
- Breen, A., Carr, E., Mann, E., & Crossen-White, H. (2004). Acute back pain management in primary care: A qualitative pilot study of the feasibility of a nurse-led service in general practice. *Journal of Nursing Management*, 12(3). <https://doi.org/10.1111/j.1365-2834.2004.00469.x>
- Dufour, S. P., Brown, J., & Lucy, S. D. (2014). Integrating physiotherapists within primary health care teams: Perspectives of family physicians and nurse practitioners. In *Journal of Interprofessional Care* (Vol. 28, Issue 5). <https://doi.org/10.3109/13561820.2014.915210>
- Fu, Y., Yu, G., McNichol, E., Marczewski, K., & Closs, S. J. (2018). The association between patient-professional partnerships and self-management of chronic back pain: A mixed methods study. *European Journal of Pain (United Kingdom)*, 22(7). <https://doi.org/10.1002/ejp.1210>
- Greenfield, S., Anderson, H., Winickoff, R. N., Morgan, A., & Komaroff, A. L. (1975). Nurse protocol management of low back pain. Outcomes, patient satisfaction and efficiency of primary care. *Western Journal of Medicine*, 123(5).
- Healey, E. L., Main, C. J., Ryan, S., McHugh, G. A., Porcheret, M., Finney, A. G., Morden, A., & Dziedzic, K. S. (2016). A nurse-led clinic for patients consulting with osteoarthritis in general practice: development and impact of training in a cluster randomised controlled trial. *BMC Family Practice*, 17(1). <https://doi.org/10.1186/s12875-016-0568-y>
- Irving, G., Neves, A. L., Dambha-Miller, H., Oishi, A., Tagashira, H., Verho, A., & Holden, J. (2017). International variations in primary care physician consultation time: A systematic review of 67 countries. In *BMJ Open* (Vol. 7, Issue 10). <https://doi.org/10.1136/bmjopen-2017-017902>
- Jones, A. C., Coulson, L., Muir, K., Tolley, K., Lophatananon, A., Everitt, L., Pringle, M., & Doherty, M. (2002). A nurse-delivered advice intervention can reduce chronic non-steroidal anti-inflammatory drug use in general practice: A randomized controlled trial. *Rheumatology*, 41(1). <https://doi.org/10.1093/rheumatology/41.1.14>
- Langridge, N. (2019). The skills, knowledge and attributes needed as a first-contact physiotherapist in musculoskeletal healthcare. *Musculoskeletal Care*, 17(2). <https://doi.org/10.1002/msc.1401>
- Maier, C. B., Barnes, H., Aiken, L. H., & Busse, R. (2016). Descriptive, cross-country analysis of the nurse practitioner workforce in six countries: Size, growth, physician substitution potential. *BMJ Open*, 6(9). <https://doi.org/10.1136/bmjopen-2016-011901>
- Mairey, I., Rosenkilde, S., Klitgaard, M.B., Thygesen, L.C. Statens Institut for Folkesundhed, Syddansk Universitet. Sygdomsbyrden i Danmark – sygdomme [Danish]. Copenhagen: The National Board of Health; 2022.
- Minns, C., & Bithell, C. (1998). Musculoskeletal physiotherapy in GP fundholding practices. *Physiotherapy*, 84(2). [https://doi.org/10.1016/S0031-9406\(05\)66546-7](https://doi.org/10.1016/S0031-9406(05)66546-7)
- Moffatt, F., Goodwin, R., & Hendrick, P. (2018). Physiotherapy-as-first-point-of-contact-service for patients with musculoskeletal complaints: Understanding the challenges of implementation. *Primary Health Care Research and Development*, 19(2). <https://doi.org/10.1017/S1463423617000615>
- National Institute for Health and Care Excellence. (2014). *Osteoarthritis: care and management*. URL: <https://www.nice.org.uk/Guidance/Cg177>.
- Riis, A., Jensen, C. E., Bro, F., Maimdal, H. T., Petersen, K. D., Bendtsen, M. D., & Jensen, M. B. (2016). A multifaceted implementation strategy versus passive implementation of low back pain guidelines in general practice: A cluster randomised controlled trial. *Implementation Science*, 11(1). <https://doi.org/10.1186/s13012-016-0509-0>
- Riis, A., Karran, E. L., Hill, J. C., Jensen, M. B., & Thomsen, J. L. (2019). A conceptual framework for increasing clinical staff member involvement in general practice: A proposed strategy to improve the management of low back pain. In *BMC Family Practice* (Vol. 20, Issue 1). <https://doi.org/10.1186/s12875-019-0923-x>
- Vlaeyen, J. W. S., Maher, C. G., Wiech, K., Van Zundert, J., Meloto, C. B., Diatchenko, L., Battié, M. C., Goossens, M., Koes, B., & Linton, S. J. (2018). Low back pain. In *Nature Reviews Disease Primers* (Vol. 4, Issue 1). <https://doi.org/10.1038/s41572-018-0052-1>
- Wallis, J. A., Ackerman, I. N., Brusco, N. K., Kemp, J. L., Sherwood, J., Young, K., Jennings, S., Trivett, A., & Barton, C. J. (2020). Barriers and enablers to uptake of a contemporary guideline-based management program for hip and knee osteoarthritis: A qualitative study. *Osteoarthritis and Cartilage Open*, 2(4). <https://doi.org/10.1016/j.ocarto.2020.100095>