Health Equity
Evidence Centre

What works: Health and care interventions to support people from disadvantaged backgrounds with musculoskeletal conditions

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EVIDENCE BRIEF

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Summary

Over 20 million people are affected by musculoskeletal (MSK) conditions in the UK. Women, people from a minority ethnic background and those living in a socioeconomically disadvantaged area report higher rates of MSK problems. Low back pain is the leading cause of years lived with disability (YLDs) in the UK with chronic pain predicted to grow in prevalence by 32% by 2040 due to an ageing population with multiple long-term health conditions. Obesity and mental health problems are also more prevalent in disadvantaged communities compounding MSK problems.

Previous research shows that MSK services do not meet the needs of underserved groups, and the evidence describing what works to address these inequalities is limited. However, the evidence that does exist suggests that care for people with MSK conditions can be made more equitable through:

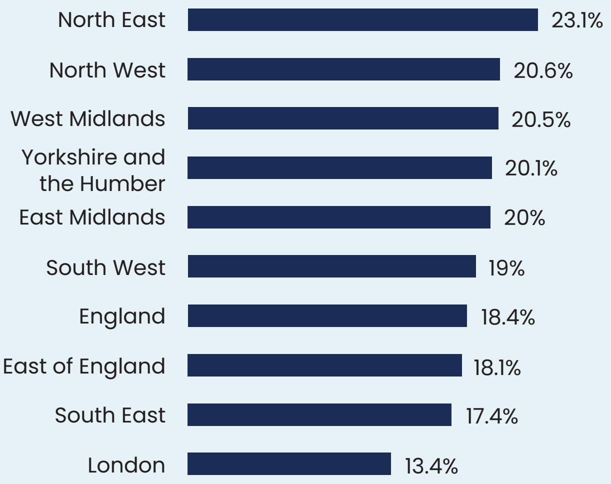
- **Awareness and early intervention**, with prevention approaches such as physical activity being delivered at community level to improve MSK health with bespoke interventions to improve health literacy.
- **Access and availability** of integrated services, targeted self-referral and direct access pathways, and digital MSK tools.
- **Acceptability and alignment** of services to diverse groups through cultural tailoring of interventions, improving staff cultural competency and increasing diversity of the workforce.
- **Analysis and insights** of MSK data through an equity-lens by having representative and patient-led data to drive service delivery.

Current challenges

17.1 million people in England are estimated to be living with an MSK condition (1). In 2023, 18.4% of people reported having a long-term MSK problem, an increase from 17.6% in 2022 (2). Based on data from the GP Patient Survey in 2023, the prevalence of self-reported MSK conditions was higher in females (20.9%) than in males (15.8%) and in the North East of England (Figure 1) (3).

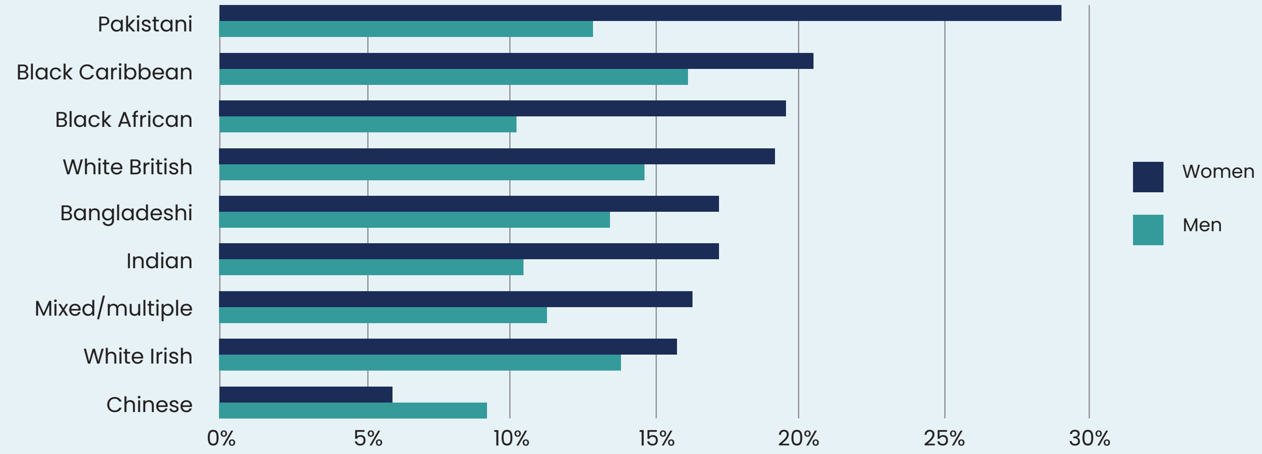
Pakistani (20.8%), and black Caribbean (18.7%) groups were also the most likely to report a long-term MSK condition from Health Survey for England data from 2012 to 2018 (Figure 2) (4). People living in areas of high deprivation were not only more likely to have an MSK condition but also to develop it at a younger age (5). Inequalities are compounded through the impact on employment, with MSK conditions being the second commonest reason for economic inactivity behind mental health (6).

Figure 1: Percentage of people self-reporting a long-term MSK problem by region in 2023



Source: NHS England, GP Patient Survey 2023. Adults aged 16 and over, age standardised.

Figure 2: Prevalence of long-term musculoskeletal conditions by ethnicity and sex, 2012 to 2018



Source: Health Survey for England 2012 to 2018, NHS Digital. Adults aged 16 and over, age standardised.

The state of chronic pain

Approximately 8 million people in the UK live with chronic pain that is moderately to severely disabling (7), with low back pain being the leading cause of years lived with disability (YLDs) (1). Black people (44% vs 34% for the national average), women (38% vs 30% in men) and those living in the most deprived areas (41% vs 30% in least deprived areas) also suffer from more chronic pain in England (8,9). Socioeconomic strain and racism have been associated with worse pain outcomes (10,11). Greater practice list size, rurality, and deprivation have also been associated with high-dose, and perhaps less optimal, opioid prescribing in England (12).

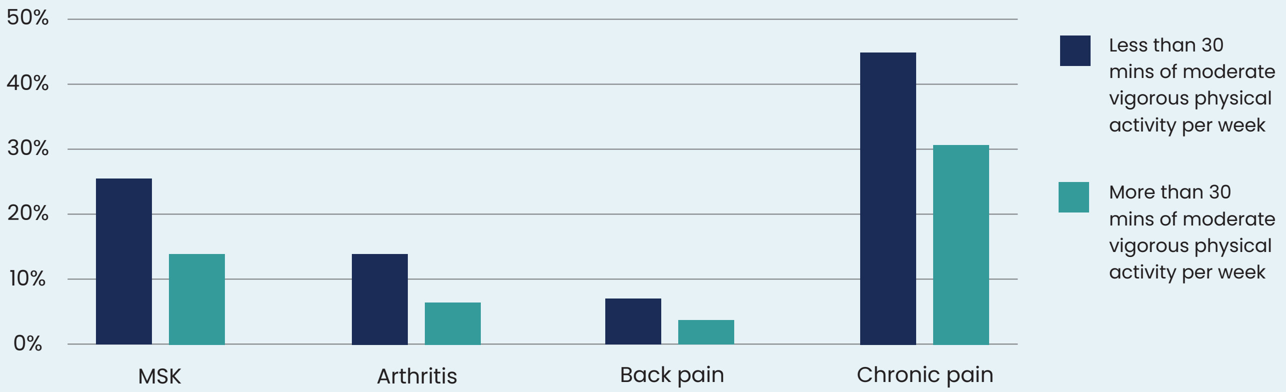
A 2021 report by Versus Arthritis (13) predicted that an integrated care system in England with 3 million people could have 825,000 suffering from chronic pain. The incidence of chronic pain is estimated to grow by 32% in 2040 (14), driven by an ageing population that is living longer with multiple health conditions.

The complex relationship between MSK conditions, mental health and obesity

There is a strong association between mental health and MSK conditions (15). In the UK, people with an MSK condition are 40% more likely to report a mental health condition (3), possibly due to the conditions being processed through similar biological channels or through MSK-driven disability, loss of work and social isolation (16).

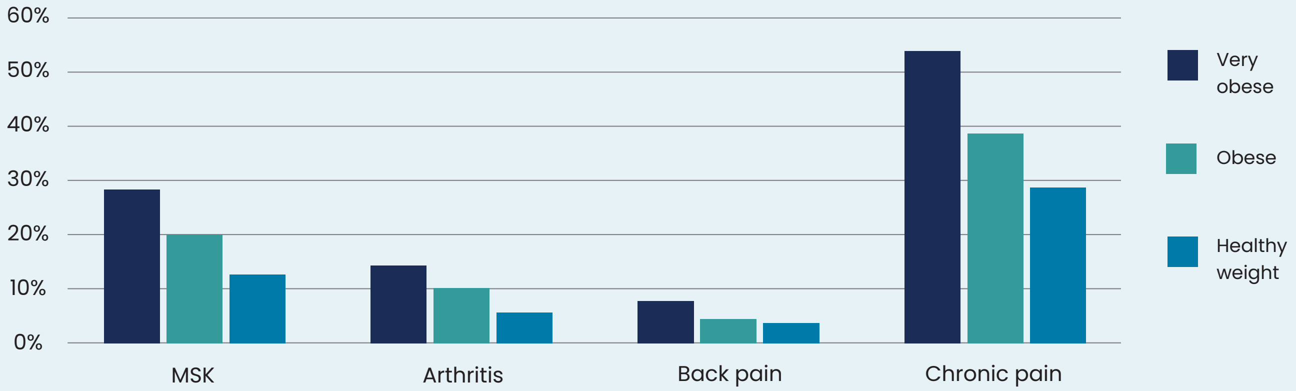
While the interrelation between mental health and MSK conditions is complex and difficult to untangle in terms of cause and effect, they often tend to exist in multimorbidity clusters that are shaped by behavioural factors influenced by one's environment such as levels of physical activity, smoking and quality of nutrition (16,17). In fact, lower physical activity is associated with more chronic pain and MSK conditions in England (Figure 3); 35.3% of adults living in the most deprived areas were inactive compared to 16.1% of adults living in the least deprived areas (18).

Figure 3: Prevalence (%) of MSK conditions by physical activity, 2017



Source: Health Survey for England 2017, NHS Digital. Adults aged 16 and over, age standardised.

Figure 4: Prevalence (%) of MSK conditions by body mass index category, 2018



Source: Health Survey for England 2018, NHS Digital. Adults aged 16 and over, age standardised.

Obesity is also associated with an increased incidence of MSK conditions (19). Deprived areas have a higher prevalence of people who are overweight (including obesity) compared to the least deprived areas (71.5% vs 59.6%) (18). People with severe obesity suffer the highest rates of chronic pain, compared to those of a healthy weight (54% vs 29%) (Figure 4) (8). Obesity is patterned by similar risk factors to MSK and mental health, so addressing those factors using a long-term preventative approach will likely address all of the above conditions (20).

Quality of care

The 2015 Fair Assessment report by Versus Arthritis found that 1 in 4 statutory assessments of local health needs did not include musculoskeletal conditions, with 62% failing to include back pain (21). Hip fracture incidence is higher in more deprived areas (5,22), with higher likelihood for delay in surgery due to medical reasons, and higher mortality rates based on a study using the National Hip Fracture Database (22). Conversely, the 10 Integrated Care Boards with the highest deprivation all had lower rates of hip replacement, despite high prevalences of hip conditions (23). The Nuffield Trust reported that rates of hip replacement decreased by 9 per 100,000 population in the most deprived decile but increased by 12 per 100,000 population in the least deprived decile (the largest increase of all deciles) between 2008/09 and 2019/20 (24).

The justification for MSK health and care improvement

MSK problems are a key driver of morbidity, but they are also patterned by inequalities with disadvantaged groups consistently reporting a higher prevalence at a younger age and worse quality of care. The consequences of chronic pain and MSK conditions being poorly managed in underserved groups can lead to more poverty, unemployment and worse mental health which compounds the cycle further. Here we review the evidence of what works to improve health and care for people with MSK conditions.

It is also important to note that a significant burden of MSK problems affect working-age populations. We explore this further in our complementary evidence brief What works: Health and care interventions to support people from disadvantaged backgrounds in returning to work (25).

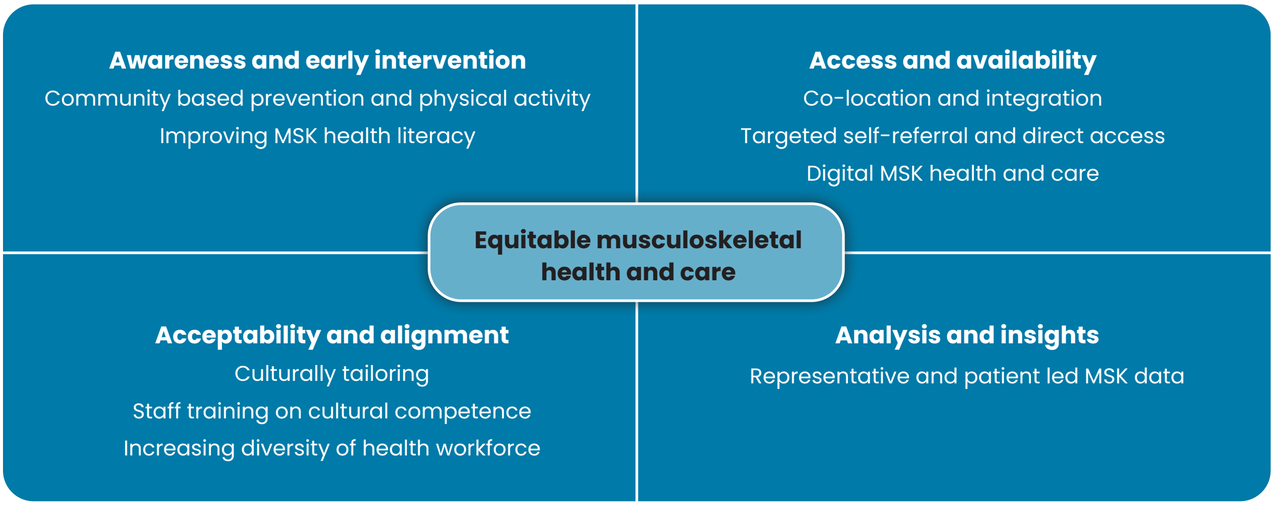
Summary of evidence

We identified 157 relevant studies through EPPI Reviewer, PubMed, Google Scholar and snowballing searching. We prioritised 61 that were the most relevant, robust and up to date. Most studies described inequalities in MSK health and care; there was only limited evidence focused on what works to address these inequalities.

Many studies emphasised the importance of reducing clinical and system barriers to improve the understanding, access and engagement of MSK interventions. Solutions included increasing health literacy, implementation of community-based programmes, integration of MSK services, culturally tailored interventions, and improved services through equity-focused data collection and analysis.

Based on Levesque and colleagues' work (26), we mapped the evidence to dimensions of care (Figure 5).

Figure 5: Conceptual framework for equitable MSK health and care



1. Awareness and early intervention

Previous research has found that underserved communities, such as those living in areas of greater deprivation (18) and south Asian communities (27–29) do not optimally engage with physical activity due to financial, logistical and cultural barriers. Low health literacy is also associated with worse health outcomes (30–32). While the association is less clear in MSK conditions (33), some studies have revealed that health literacy levels do associate with poorer MSK outcomes, such as with intensity of chronic pain and pain catastrophising (a negative response characterised by exaggerating the pain's threat), (34–36) and self-management (37).

Self-management also requires high self-efficacy, and a review of 60 randomised controlled trials looking at interventions to enhance self-efficacy in people with chronic MSK pain found low-grade evidence for multicomponent exercise and psychological interventions in improving outcomes (38). However, underserved patients tend to benefit less from self-management interventions due to socioeconomic, cultural, environmental and educational barriers that make adherence challenging (39–42). The structural disadvantage faced by these groups limits self-efficacy and warrants its own research to understand how to best mitigate.

It is unclear if mass media prevention or physical activity campaigns targeted toward minority ethnic populations are more effective (43). The impact of social media interventions on inequalities is also unclear (44), with low certainty evidence that it may improve physical activity in general but not for underserved groups.

Community-based prevention and physical activity

International reviews have found that community-based interventions to promote physical activity in disadvantaged groups are effective (45,46). A review of community-based interventions for promoting physical activity found that interventions were more effective if they had a group component and if they were delivered by community organisations (e.g. churches), particularly for socially disadvantaged women (46). A review of interventions based in rural and remote populations found that community-based education and exercise led to significantly reduced chronic MSK pain [OR = 1.85 (95% CI 1.22, 2.82)] compared to controls (45). The authors reported that engaging local staff in the programme delivery, using community locations, and ensuring cultural alignment were important to optimise interventions.

These findings are also supported by UK reviews of physical activity interventions in disadvantaged groups (29,47). Such and colleagues identified 57 physical activity interventions focusing on UK black and minority ethnic groups and found that community capacity-building (i.e. using resources, word-of-mouth, and champions within the community) was an essential element, alongside cultural tailoring (29). Another review identified barriers to physical activity engagement in people with MSK conditions, which included complex booking procedures, poor translation services, dismissive attitudes to shared decision-making, mistrust, cultural relevance of physical activity, and groups wanting "more than just a sheet of exercises" (47). Marley and colleagues reviewed the effectiveness of interventions to increase physical activity in adults with persistent MSK pain and found that a higher number of contact hours (more than 8.3 hours) resulted in better outcomes (39).

Improving MSK health literacy

Studies have found that patients often want better education by health professionals, and desire more information about their MSK condition beyond an explanation of its management (37,40,41).

Chou and colleagues examined 30 studies to help identify the perceived information needs of patients living with osteoarthritis (OA) and found that they wanted to understand the impact of OA on their quality of life and long-term prognosis, as well as non-pharmacological management (37). A UK qualitative study by Adams and colleagues found that that information provided by health professionals to patients with MSK problems was not always useful (40). Both studies found that patients relied on social networks or online communities and emphasised the importance of clear, consistent and accessible (i.e. readily available) communication to better support people with lower health literacy.

Identifying patients at risk of low health literacy is also necessary to address it. A report by the American Orthopaedic Association (41) advocated for the use of the Literacy in MSK Problems (LiMP) questionnaire, a validated instrument for assessing musculoskeletal health literacy via competencies that are integral to making informed decisions regarding MSK health, including anatomical terminology, diagnosis and treatment (48). However, while its use has been validated in many study settings, there is no evidence to suggest that it is both feasible and effective in real-world clinical settings at improving MSK outcomes.

A review of six studies of MSK education interventions in people with low health literacy found a small, short-term effect on knowledge (49). The lack of long-term effect may be due to not addressing the underlying barriers and facilitators faced by underserved groups. We know that generally the most effective health literacy interventions tailor information to the cultural and social needs of patients, engage with communities in the real-world setting, use audio visual information and multimedia tools, and focus on upskilling and empowering patients over a sustained period of time (31).

2. Access and availability

Community integration, self-referral, direct access and digital MSK interventions have been found to improve access; however, evidence is often lacking or mixed in relation to disadvantaged communities. Furthermore, NICE guidelines recommend chronic pain treatments in primary and secondary care that are difficult to access due to cost and availability, like acupuncture and acceptance and commitment therapy (ACT) (50).

Co-location and integration of MSK services

Across all conditions, co-locating and integrating services improves care for underserved groups, but especially for those with co-existing mental health and addiction problems (51).

Crawford and colleagues looked at strategies to increase access to outpatient physiotherapy and found that 7 out of 51 studies evaluated services in unconventional community settings, such as homeless shelters (52). They found that community located physiotherapy increased patient satisfaction, provided a positive rehabilitation experience, and reduced barriers to accessing care. Berry and colleagues' UK-based review also found that shifting MSK care to more place-based approaches removed barriers to initial health system engagement (47). They recommended 'Community Appointment Days' which would provide a comprehensive range of MSK support services under one roof, typically in local leisure centres, and offered to patients on MSK referral waiting lists.

A successful example of community integration is the UK-based MSK Hubs programme (53) (see case study box). Developed in partnership with ukactive and several other key stakeholders, the multi-component project created capacity for the delivery of support for MSK health using existing community assets (places and people) in a more affordable and accessible way (both in terms of location and waiting time) (54). A 2024 evaluation found that 44% of participants reported improvement in the pain management of their condition after attending the programme sessions for 12 weeks (54). Recommendations for upscaling and successful delivery of the programme included specifying how to engage healthcare professionals and improving referral pathways (54).

Case Study: MSK hubs programme

Site selection for the programme was mapped against Indices of Multiple Deprivation (IMD) to ensure delivery to areas experiencing the greatest inequalities, with pilot sites receiving training and support for implementation. Community venue staff and volunteers were upskilled to offer holistic wellbeing service combined with the evidence-based self-management services for arthritis and chronic pain (54). Service-users were most likely to find out about the MSK Hubs programme through their leisure centre (45.7%), followed by referrals from the GP or physio (18.1%) (54), revealing a demand for individuals to self-refer and to receive support for their condition in a non-clinical setting, in addition to medical referrals.

Definition: Direct access or self-referral

Patient direct access (also known as self-referral) for MSK care is a system of access in which patients can refer themselves directly to a non-medical first contact professional without having to see anyone else first, or without being told to refer themselves by a medical practitioner (47).

Direct access or self-referral to MSK services

Previous research has found that direct access services for patients with MSK conditions improves outcomes and is more cost-effective than clinician-led care (52,55). A review of 26 studies of non-medical triage, self-referral and direct access services for patients with musculoskeletal pain found that, improvements in pain, functional disability and quality of life were consistently similar between direct access patients and GP-led care (55). Furthermore, evidence shows that direct access patients report less work-related absence due to their MSK conditions compared to GP-led care (55). A review by Crawford and colleagues found that from 8 out of 51 studies that evaluated health system costs, six had lower costs per episode of care for direct access and two had no cost difference (52).

There is a lack of data examining the impact of self-referral physiotherapy services on inequalities in the UK (56); however, research from other health services with self-referral pathways show that it is used more by white patients, possibly due to language and literacy barriers (57). A recent evaluation of patient-initiated follow-up (PIFU) by the NHS Rapid Service Evaluation Team found limited evidence of the impact of PIFU on different patient groups (58). It is thought that digital exclusion and socioeconomic status influenced engagement with PIFU, although these conclusions are limited by the lack of data collection of demographic characteristics (58). Babatunde's review also found that those who used direct access and self-referral services were often younger, slightly more educated and of higher socioeconomic status, suggesting that targeting underserved groups is required (55).

Contrastingly, a recent MSK service evaluation from Sandwell and West Birmingham Trust (59) found that primary care referrals were disproportionately high for the white patient group, while self-referrals were predominantly from black and Asian populations, suggesting the presence of GP access barriers.

From a systems approach perspective, self-referral or direct access use by groups with more health literacy and agency may free up staff capacity and time to support patients with greater needs, though we lack the data to assess if this resource shift happens in practice. Further evidence regarding mitigating inequalities in self-referral can be found in our evidence brief collection (60).

Digital MSK health and care

Digital health interventions (DHIs) such as personal health tracking, web-based programmes, websites and apps have the potential to bridge gaps in access but risk exacerbating inequalities. Hewitt and colleagues reviewed the effectiveness of DHIs for management of MSK conditions and found that, across 19 studies, nine reported statistically significant reductions in pain following digital interventions, and 10 out of 16 studies reporting significant improvements in functional disability (61). Due to the different digital features within each intervention, it is unclear which components are most effective.

One UK study used expert stakeholder interviews to develop strategies to improve the equity of digital pain management tools (62). They found that language barriers, learning difficulties such as cognitive impairments or low digital literacy, and lack of comfort with technology negatively impacted use of digital tools. They identified potential strategies across four categories: (a) modifying tools (e.g., zoom functionality for people with visual or dexterity impairments); (b) improving digital skills and physical access to digital resources (e.g., develop easier-to-understand written user instructions about how to complete pain self-reports); (c) improving perceived value of pain self-reports (e.g., materials for healthcare professionals to better interpret pain self-reports); and (d) building trust in technology and research (e.g., enable users to control what information is shared).

Another UK study explored cross-cultural acceptability of digital tools for pain self-reporting and found differences in requirements related to language (e.g. translated in-app instructions, culturally appropriate pain terminologies) and reporting functionality (e.g. pain layers or depth) (63). They also found differences for pain quality descriptors, such as 'aching', 'gnawing', and 'throbbing', which supports the use of pain assessment using visuals rather than words.

3. Acceptability and alignment

Tailoring services to meet the cultural needs of underserved patients improves intervention engagement (64–68). Upskilling staff to understand the cultural values and beliefs of their patient population also helps with providing tailored care (69–72). Furthermore, having a workforce that is ethnically diverse and congruent to its target population can ensure acceptability of care given (69,73).

The biopsychosocial framework (74), a theoretical model viewing health and wellbeing more holistically with consideration of influence of social factors, was consistently highlighted in the literature as an important element to MSK care (75–78).

Cultural tailoring of interventions

Research suggests that ethnocultural and migration background have significant influence on the pain experience, including coping strategies and therapy engagement (68,79–81). A review of nine studies looking at the effectiveness of multidisciplinary, activity-based chronic pain interventions for adults of ethnoculturally diverse (ECD) backgrounds found the interventions had poorer outcomes for ECD adults compared to the predominant culture (68). Concerningly, differences in pain intensity persisted up to three years post-intervention. Another review assessed if multidisciplinary pain interventions were multicultural, and found only 3 of 75 studies included had participants who spoke a nondominant language (79). A review specifically evaluating chronic pain interventions in recent refugee and immigrant populations found multidisciplinary pain management programs were also effective (80).

A review of 11 studies examining strategies to improve equitable access to early osteoarthritis diagnosis and management for disadvantaged groups found most interventions included education through decision aids or self-management coaching (82). Interventions were adapted using language translation, frequently visited locations and co-producing with representatives from targeted groups. This is consistent with adaptations suggested in other reviews, with language translation and the use of culturally congruent community champions and venues being the most common (68,80).

A qualitative UK study aiming to explore pain management perceptions and understanding of key components of cognitive behavioural therapy in South Asian community members found that while religious and cultural differences were noted, the more significant differences were noted by age and gender (28). The authors suggested stratifying pain management interventions by specific age and gender groups as a form of cultural tailoring. They also recommended exercise for pain management be integrated within the context of other meaningful activities which might include walking to the local mosque or spiritual stretching during prayer time.

Cultural tailoring is important for pain management, as evidenced by two case studies (83,84). A culturally adapted pain management programme based in Bradford, with a large Pakistani community, found statistically significant improvements in anxiety ($P<0.01$), depression ($P<0.01$), and self-efficacy ($P<0.001$) (83). The pain management intervention included an overview from the hospital's Muslim chaplain and how Islamic teachings promote self-management, compassion, physical activity and dispelling cultural myths. As literacy is a common problem, audio and video material were presented in Urdu (83). Though the findings were significant, the programme had a very small sample size ($n=6$) with no comparison group, so provides more evidence for feasibility rather than clinical or cost-effectiveness.

An Australian feasibility study implemented a cultural mentoring program alongside pain management and physical rehabilitation for chronic musculoskeletal conditions (84), and found higher treatment attendance (75% pre-implementation; 89% post), and high treatment satisfaction (97% pre-implementation; 96% post). Compared to routine care ($n = 71$), patients receiving mentoring ($n = 55$) achieved significantly higher Patient Activation Measure scores at 3 months (median change 0 vs 10.3 points, $p < 0.01$) (84).

Staff training and cultural competency

Mistrust, structural racism and clinician bias can lead to inequalities in MSK health and care. This is particularly true for chronic pain, with several reviews revealing cultural variations in how pain is perceived and subsequently managed (28,67,71,72,85). A US review examining the psychosocial predictors of chronic MSK pain in black people found that perceived racial or ethnic discrimination in medical providers was associated with worse pain (71). Different preferences and expectations relating to seeking and receiving pain care, such as practising stoicism and not openly discussing pain with family and community also limited how black people accessed care. Stoicism was also noted in a UK qualitative study that explored the beliefs and lived experiences of British and Punjabi participants with chronic low back pain (72). They found that Punjabi participants felt a "disruption to their cultural-religious wellbeing" and suffered negative responses and stigma from their wider community, lending itself to stoicism. In both cases, it was unclear whether stoicism had positive or negative impact on pain outcomes though they definitively influenced access and engagement with pain services.

Studies have also shown that South Asians tend to favour passive coping strategies such as massage and rest for chronic pain, rather than active strategies such as exercise which is often prescribed by staff (72,86). Authors of both reviews suggested strengthening the therapeutic alliance by training providers in cultural humility and having a deeper understanding of the cultural context of pain, aligning management options closer to held beliefs (71,72). However, the limited evidence of therapeutic alliance in physiotherapy is contrasting. A review by Kinney and colleagues concluded that strong relationships may improve pain outcomes (87), whilst a review by Lakke and Meerman reported that therapeutic alliance did not improve pain outcomes of physical function (88).

A review of seven qualitative studies that explored chronic MSK pain found that healthcare providers' implicit biases around race, ethnicity, gender, and patients' unmet expectations negatively influenced the process of care (85). They described examples where black patients were prescribed fewer medications compared to their white counterparts, and that women were also provided with inadequate pain relief. When patients' expectations were not met – due to perceived disrespect from providers, or frustration from providers who do not understand reasons behind missed appointments – there were higher dropout rates from pain rehabilitation programs and poorer long-term pain outcomes.

Diverse MSK healthcare workforce

Staff diversity has not only been shown to improve patient outcomes (89), but also patient satisfaction and trust, cultural competence in the patient-provider relationship, health care access for geographically underserved populations, and wider inclusion in research (90,91).

However, there was limited evidence regarding recruitment strategies to improve MSK workforce diversity. A review of 62 studies looking at overcoming barriers to diversity in orthopaedic surgery found implicit biases during the selection process of trainees and negative perceptions of the specialty by potential trainees (73). The authors suggested trainees required provision of good role models, mentorship and outreach through pipeline programs that target underrepresented students in high school and university.

Notably, studies in non-MSK conditions, predominantly mental health, found that while some participants wanted culturally or ethnically matched staff, others felt it was more important that healthcare professionals were kind, caring and knowledgeable (92), with mixed evidence that ethnic matching of staff is effective (93,94). It is also important to consider whether underserved individuals would prefer not to be treated by professionals from the community due to concerns about stigma (72,95).

4. Analysis and Insights

Representative and patient-led MSK data

Poor data can prevent effective action on health inequalities generally. The Ada Lovelace Institute recently published a report describing six "knots" in the data pathway that lead to inequalities: 1) inequalities are poorly understood and measured, 2) there are tensions between local and national priorities for data, 3) data quality varies, 4) data curation can lose the nuance, 5) data poorly reflects the lived experience of patients and communities and 6) limited historical or situational knowledge (96).

A UK review which explored the differential effectiveness of seven MSK interventions as prioritised by Public Health England across disadvantaged groups found that almost all studies lacked an equity focus due to incomplete or missing data relating to ethnicity and socioeconomic characteristics (97). Another UK review of 10 studies which examined access to secondary and tertiary pain services for minority ethnic groups with chronic pain found that none of the studies specifically assessed ethnic inequalities (98), in part because of a lack of accurate ethnicity coding. In fact, poor ethnicity coding occurs across all health services, limited partly due to patient mistrust and representativeness of ethnic categories with many individuals selecting the "other" category in the absence of alternative choices or free-text fields (99).

There are studies aiming to improve data quality and ethnicity recording, though research in the area is still in its infancy. A recent review to improve data quality relating to health inequalities found evidence for introduction of data collection legislation, senior buy-in, staff training, improved IT infrastructure and data linkage (100). An unevaluated programme for Cambridgeshire and Peterborough NHS Foundation Trust's paediatric mental health services developed an interactive, live dashboard to view rates of ethnicity data completion to raise awareness and prompt staff to reflect on the value of data (101).

A UK review also developed a minimum set of MSK indicators for primary care and community services, including three patient-reported outcome measures (PROMs) and one patient-reported experience measures (PREMs) (102). PROMs and PREMs promote patient-led outcomes; however, PROMs are less likely to be completed by ethnic minority groups and lower socioeconomic groups (103). A US based study examining the use of hip and knee arthroplasty PROMs in minority ethnic and lower socioeconomic groups recommended translation into different languages, consideration of health literacy, and use of Visual Analog Scales and other pictorial versions (103). They also suggested more administrative support and resources, surgeon engagement, paper options in addition to digital, e-mail reminders, collecting PROMs prior to the start of the patient visit, information sheets and individually approaching patients (103).

Limitations

The lack of reviews exploring strategies to address inequalities specifically in MSK health and care limited our conclusions about what interventions were the most effective. However, we were able to draw upon transferable evidence for effective interventions in other health conditions, such as mental health. Most of the included MSK studies lacked an equity-focused analysis by not providing disaggregated data across different characteristics such as ethnicity or socioeconomic status. Chronic pain as an MSK condition was also overly represented in this brief, with conditions such as arthritis, osteoporosis and other rheumatological conditions having less evidence. It is also important to recognise that health and care interventions form only one facet of prevention and treatment of MSK conditions, and optimal MSK health necessitates a cross-sectoral approach targeting multiple social determinants to improve wellbeing and reduce inequalities.

What works: key recommendations

The Grading of Recommendations, Assessment, Development and Evaluations (GRADE) framework has been adopted to grade the quality of the evidence and support recommendations.

Recommendation	Target audience	GRADE certainty
Community-based physical activity programmes which are targeted at disadvantaged communities, culturally relevant and held in familiar community settings should be implemented.	NHS England, ICBs, local authorities and general practices	⊕⊕⊕○ Moderate
Group activities based in trusted community locations should be implemented, especially targeting women from underserved communities.	NHS England, ICBs, local authorities and general practices	⊕⊕○○ Low
MSK programmes, services and communication should be tailored so that the content is easy to understand for people with low health literacy. e.g., by working with patient representatives to ensure written material is understandable and using pictograms, illustrated text, and narrated animations and audio-visual information (in digital material) as much as possible.	NHS England, ICBs, PCNs, Trusts, pharmacies, and general practices	⊕⊕⊕○ Moderate
Integrated, community-based physiotherapy services located in underserved communities, particularly unconventional spaces, are likely to improve access and outcomes.	NHS England, ICBs, PCNs, Trusts, and general practices	⊕⊕⊕○ Moderate
Self-referral and direct access MSK services without consideration or mitigation for underserved groups may perpetuate inequalities.	NHS England, ICBs, PCNs, Trusts, and general practices	⊕⊕○○ Low
Digital health interventions with appropriate modifications addressing differential literacy, linguistic and cognitive needs may improve pain and function outcomes, and are likely to be at least as effective as non-digital activities and should be offered as part of multi-component programmes.	NHS England, ICBs, PCNs, Trusts, and general practices	⊕⊕○○ Low
Pain assessment tools should use visual methods wherever possible.	NHS England, ICBs, PCNs, Trusts, and general practices	⊕⊕⊕○ Moderate

Recommendation	Target audience	GRADE certainty
MSK services should be culturally tailored, including the age and gender of the target population.	NHS England, ICBs, PCNs, Trusts, and general practices	⊕⊕⊕○ Moderate
Staff should undergo health equity training that covers cultural competency, anti-stigma and anti-racist training.	NHS England, ICBs, PCNs, Trusts, and general practices	⊕⊕○○ Low
The NHS should seek to recruit and retain a diverse workforce in terms of ethnicity, age, educational background and gender, including mentoring programmes.	NHS England, ICBs, PCNs, Trusts, and general practices	⊕⊕○○ Low
National and regional teams should provide support and guidance on data collection, including definitions, coding and processing to facilitate standardisation.	NHS England, ICBs	⊕⊕○○ Low
Using standardised PROMs and PREMs across the NHS to benchmark MSK services, disseminated in multiple languages and in alternative multimedia formats (e.g. visual scales), may identify areas of unmet need and allow for comparison.	NHS England, ICBs, PCNs, Trusts, and general practices	⊕⊕○○ Low

*GRADE certainty communicates the strength of evidence for each recommendation.

Recommendations which are supported by large trials will be graded highest whereas those arising from small studies or transferable evidence will be graded lower. The grading should not be interpreted as priority for policy implementation – i.e. some recommendations may have a low GRADE rating but likely to make a substantial difference.

Useful links

- Act Now: Musculoskeletal Health Inequalities and Deprivation
- Persistent pain - Sheffield Aches and Pains - Patients
- Framework for Pain Management Service Delivery - Scotland
- Model of Care: The Good Life with osteoArthritis (Denmark)
- Policy Toolkit - Fragility Fracture Network (with global case studies)
- England | Versus Arthritis
- Versus Arthritis: Chronic Pain in England

About the Health Equity Evidence Centre

The Health Equity Evidence Centre is an academic collaboration hosted by Queen Mary University of London which seeks to build the evidence base of what works to address health and care inequalities. Decades of evidence has shown that the structures and systems within society lead to health inequalities. We believe that it is only by tackling the unequal distribution of the social determinants of health will we achieve health equity and that the benefits of health care should reach the most marginalised in society.

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About this evidence brief

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