

# Act Now: Musculoskeletal Health Inequalities and Deprivation

Report of ARMA's inquiry



# Members of Arthritis and Musculoskeletal Alliance



# Acknowledgements

Financial support was provided for this project through sponsorship from Grünenthal UK Ltd and charitable grants from Pfizer Limited, Novartis Pharmaceuticals UK and Janssen.

For their contribution to this report, we would like to thank ARMA member organisations and the members of our Advisory Panels. We would also like to thank Will Manners, Liz Lingard and Dr. Ian Bernstein for reviewing the report in the latter stages, and the report writer Virginia Wakefield.

## Lived experience advisory panel

-  **Shabir Aziz**
-  **Gareth Gault**
-  **Jane Taylor**
-  **Claire Blamey**

## Expert advisory panel

-  **Dr. Tim Allison**, Director of Public Health and Health Policy, NHS Highland.
-  **Dr. Jo Bibby**, Director of Health at the Health Foundation.
-  **Dr Nav Chana**, General Practitioner, Non Executive Director Lewisham and Greenwich NHS Trust. Former Chair National Association of Primary Care
-  **Professor Durka Dougall**, Professor in Public Health and Population Health at UEL & UCL, CEO of the Centre for Population Health, Chair of The Health Creation Alliance, Deputy Chairman of Kingston Hospital NHS Foundation Trust and Hounslow and Richmond Community Healthcare NHS Trust.
-  **Professor David Hunter**, Professor Emeritus, Newcastle University.
-  **Dr. John Ford**, Senior Clinical Lecturer in Health Equity, Queen Mary University London.
-  **Dr. Jonathan Pearson-Stuttard**, Head of Health Analytics at Lane Clark & Peacock and Chair of Health Inequalities Programme Board at Northumbria Healthcare NHS Foundation Trust.
-  **Professor Suzan Verstappen**, Professor of Epidemiology in the Centre for Musculoskeletal Research, School of Biological Sciences, University of Manchester

## We would also like to thank those who took the time to give us oral evidence:

-  **Andrew Bennett**, Consultant physiotherapist and NHS England National Clinical Director for MSK
-  **Dr. Jacqui Clinch**, Consultant paediatric Rheumatologist
-  **Dr. Alf Collins**, Clinical Director for Personalised Care, NHS England
-  **Ann Hagell**, psychologist and research lead at the Association for Young People's Health
-  **Jacob Lant**, Chief Executive, National Voices
-  **Dr. Aoife Molloy**, Consultant in Infectious Diseases and Acute Medicine & NHS England Senior Clinical Adviser for Healthcare Inequalities Improvement
-  **Dr. Bola Owolabi**, GP & Director of the National Healthcare Inequalities Improvement Programme, NHS England
-  **Jim Phillips**, Executive Director of the Centre for Empowering Patients and Communities
-  **Chloe Stewart**, Health Psychologist

# Contents

5	• <b>Summary</b>
7	<b>Recommendations</b>
10	• <b>Introduction</b>
12	• <b>Purpose of this report</b>
15	<b>PART I – Health inequalities and MSK</b>
20	<b>PART II – The drivers of poor musculoskeletal health</b>
22	• <b>Poverty</b>
23	• <b>MSK, employment and poverty</b>
25	• <b>Education</b>
26	• <b>Modifiable risk factors</b>
28	• <b>Local and national policy</b>
29	<b>PART III – Addressing health inequalities</b>
30	• <b>Embedding service delivery in the community</b>
30	• Moving service delivery into the community
30	• Recruiting from the local community
32	• Inclusion health – people experiencing homelessness
34	• Community engagement, co-production and building trust
39	• <b>Tackling inequalities using data</b>
40	• Data driven interventions
41	• Accessing support through collaboration
42	• Monitoring inequalities
45	• Geographical distribution of MSK services
48	• <b>Children and young people with MSK conditions</b>
54	• <b>Self-managing an MSK condition</b>
55	• Supported self-management
57	• ‘The conversation’
58	• Multimorbidity
61	• Addressing modifiable risk factors
63	• Addressing health literacy
64	• Digital exclusion
66	• <b>Policies that widen health inequalities</b>
66	• Patient Initiated follow-up and self-referral practices
67	• Case study: Self referral rates to a community MSK service
68	• <b>Conclusion</b>
69	• <b>Bibliography</b>
75	• <b>Appendix</b>

# Summary

Musculoskeletal (MSK) conditions cover a broad range of health conditions affecting the bones, joints, muscles and spine. Common symptoms include pain, stiffness and a loss of mobility and dexterity. MSK health is fundamental to our wellbeing and impacts on every aspect of life, including work, learning, caring for family, travel and leisure, exercise, sport and living independently.

People with MSK conditions living in areas of deprivation experience health inequalities. People in deprived areas develop MSK conditions earlier than those in less deprived areas and are more likely to have multiple conditions and therefore to be clinically complex. They are more likely to need joint replacement surgery but are less likely to receive it, compared to people in the least deprived areas. As Marmot stated, there is no biological basis for these disparities – they are avoidable.<sup>62</sup> With sufficient commitment and focus, there is a real opportunity for healthcare services to push the dial back in the right direction.

Throughout 2023, ARMA carried out an inquiry into inequalities in MSK health related to deprivation. We gathered written and oral evidence, including from MSK services that were undertaking work to address these inequalities.

## Key messages from the inquiry

Health inequalities are largely driven by the wider determinants of health. Only 20% of our health and health inequality relates to healthcare. This report identifies the most significant social and economic factors influencing poor MSK health: poverty, education, employment and an environment and food culture that deters physical activity and a healthy diet. Therefore, whilst there is a significant amount that the NHS can do, it cannot alone eliminate inequalities in MSK health.

People with MSK conditions from areas of deprivation often lack the 'bandwidth' to manage their condition effectively when they are more concerned with putting food on the table or heating their home. Understanding the many competing pressures people face while trying to manage their MSK condition is important for people working with individuals with such conditions from deprived areas. If they are to tackle MSK health inequalities, MSK services and MSK healthcare practitioners need to be mindful of this wider context.

## The NHS can help to reduce health inequalities

The Inquiry heard from service managers and health professionals who had taken steps to address health inequalities. This report contains case studies showing how they have approached this and recommendations based on what we heard.

- **Getting closer to and knowing your community.** Moving services into community spaces such as local council gyms, church halls and community centres can make them more accessible to under-served groups from deprived areas. We also heard of services that place a high value on employing people from the local community to allow patients to see themselves reflected in the service and guarantee that professionals know the local facilities and services.
- **Developing shared ownership of services through engagement and co-production.** Some services have found innovative ways to engage with under-served groups. Health professionals have volunteered at foodbanks and homeless cafes to get closer to, and build trust with, groups that have either not accessed services at all or have had negative experiences of unresponsive one-size-fits-all services.

- **Using data to identify, tackle and monitor barriers to accessing services, and unequal health outcomes.** Analysing data allows services to identify unmet need – including where people from areas of deprivation are under-represented. However, this is not always easy. Service managers talked about the difficulties of collecting, accessing and integrating sources of data.
- **Avoiding inertia caused by the scale of the problem and starting now in the spirit of service improvement.** The overriding message from the health professionals who gave oral evidence to this Inquiry was for MSK service leaders and managers not to wait for perfect data and instead to act now based on what services already know. Start small with an intervention aimed at improving the service by reducing inequality of access or outcomes experienced by people with MSK conditions from areas of deprivation.
- **Paediatric MSK services face particular challenges in identifying and tackling health inequalities.** Paediatric services often operate across large geographical areas creating a particular challenge to identify and tackle inequalities. Leaders and managers can identify unmet need, for instance by monitoring Did Not Attend (DNA). Services can support patients from areas of deprivation through effective and age-appropriate engagement, the willingness to provide services as flexibly as possible, and by offering intensive support where needed to children and young people facing the most significant challenges.
- **Targeting intensive and tailored supported self-management where need is greatest.** Supported self-management strategies, including health coaching, peer support and social prescribing, are required for those facing challenging social situations or lacking in health literacy and/or digital access. These should be embedded in MSK pathways with priority given to those most in need.
- **Recognise the impact of managing other long term conditions alongside MSK.** Where people live with multiple conditions, these conditions interact. Poor MSK health can lead to worsening of other conditions, which in turn make managing MSK more challenging. Healthcare professionals need to consider the impact of this and avoid adding to the burden of managing multiple conditions.
- **The quality of clinical encounters must be at the heart of services' approach to people with MSK conditions living in deprivation.** Services that want to work more effectively with people with MSK conditions living in deprived areas must invest in staff training to improve the quality of all clinical encounters. Health professionals need the skills to accurately assess an individuals' understanding and capacity to manage their condition, whilst maintaining awareness of the competing priorities an individual may have. This is particularly important for people from areas of deprivation with multiple conditions.



# Recommendations

## Education and Training providers

Ensure they equip the MSK workforce with the knowledge and skills to address health inequalities.

## Healthcare professionals

- Understand that trust may need to be rebuilt between services and people with MSK conditions living in deprived areas and discuss ways in which to achieve this.
- Employ the strategies set out in the supported self-management toolkit.<sup>148</sup>
- In their clinical encounters with people with MSK with other co-morbidities who are living in areas of deprivation, consider whether what they require that individual to do is adding to their burden and whether they can make adjustments to accommodate their needs.
- Be aware of resources locally to support people living with food insecurity so that they can refer as required.
- Consider health literacy in their clinical encounters and identifying those who struggle with health information for additional support.

## Leaders and managers of MSK services

### Understanding the community

- Recruit staff where possible who reflect the cultural and ethnic make-up of the population being served.
- Identify the inclusion health groups in their area in order to develop a tailored offer for these groups including flexible, drop-in services, and partnerships with voluntary or community organisations.
- Recognise the value Voluntary Community, Faith and Social Enterprise (VCFSE) groups working with disadvantaged and marginalised groups can bring.
- Identify communities that are not accessing the service where trust may be an issue and find innovative ways to engage them.
- Understand that trust may need to be rebuilt between services and people with MSK conditions living in deprived areas and discuss ways in which to achieve this.

- Ensure that any change in service design or quality improvement work is co-produced with people with lived experience including people living in deprived areas.
- Start using data to tackle health inequalities. Start small to gain learning and traction for further work.
- Target the 20% most deprived areas in a population as a reasonable proxy for targeting communities with the greatest need.
- Monitor patient reported experience, outcomes measures, DNA rates, attendance in relation to expected prevalence and waiting times in relation to deprivation, and develop an action plan to remove any barriers faced by these patients.

### Personalised care

- Engage with the voluntary sector to develop peer support opportunities for people with MSK conditions living in areas of deprivation.
- Ensure that the service provides supported self-management to individuals with MSK conditions living in areas of deprivation.
- Prioritise people with multimorbidity living in areas of deprivation for supported self-management.
- Invest in training staff to have quality clinical encounters with people living in deprived areas that address lower levels of health literacy.
- Institute the use of tools such as Patient Activation Measures to identify those people who require supported self-management.
- Ensure that all healthcare professionals receive training in health inequality, health behaviour change, health coaching and multimorbidity management as part of their workplace training.
- Address modifiable risk factors with those in most need through a supported self-management and health coaching approach.
- Ensure all staff undertake training in how to address issues related to activity, weight, diet and nutrition.
- Ensure that a dietician is employed as part of a multidisciplinary approach in services serving areas of deprivation.

## Digital and health literacy

- Conduct an assessment of all communications with service users for their accessibility to people with low levels of health literacy and amend materials accordingly.
- Ensure that where digital resources or tools are provided by the service, an alternative means of access must be available for those who cannot easily access digital resources.
- Provide targeted face-to-face support for people with MSK conditions living in deprived areas to ensure that they can access any digital resource intended for their use.

## Paediatric services

In addition to the above, paediatric services should:

- Ensure provision of advocacy or health navigator support for children with MSK conditions who do not have effective family support with the resources to drive their care.
- Build relationships with voluntary and community organisations to provide support for children and young people with MSK conditions identified by health professionals as needing additional support.
- Not wait for perfect data to become available and act now to reduce health inequalities.
- Ensure that the service offers flexible appointments outside of school hours and/or drop-in clinics and 'one-stop-shop' clinics or grouped appointments to prevent children and young people from taking excessive time out of education.
- Ensure that children and young people from deprived areas are prioritised for supported self-management including health coaching.
- Invest in personalised care skills training for staff to support provision of quality clinical encounters – including personalised care skills and health coaching – with children and young people from areas of deprivation (see ['The conversation'](#)).

## Local health systems

### Understand the community

- Target the 20% most deprived areas in a population as a reasonable proxy for targeting communities with the greatest need.
- Analyse the distribution and location of MSK health services for people (including diagnostic and pain services) in relation to clinical need, rural areas and areas of high deprivation. MSK and pain services should be located according to population need.
- On the basis of their analysis, consider the adoption of 'hub and spoke' or outreach models of care for people with MSK conditions who live in rural and remote areas, face long journeys by public transport or live in areas of deprivation.
- Consider how people who have to travel beyond their locality for treatment can be supported.
- All patients eligible for patient transport services should be made aware of this and given advice on how to apply.
- Consider how, while mindful of the digital divide, technology can be used to support some patients with their treatment needs, reducing the need to travel.
- Analyse the distribution of MSK services for children and young people in relation to areas of deprivation and locate paediatric MSK rehabilitation hubs in areas of deprivation to aid access to care.
- Paediatric therapies such as occupational therapy, physical therapy and psychotherapy should be provided through local rehabilitation hubs rather than in tertiary centres to reduce the amount of time children spend out of education.



## Personalised care

- Engage with the voluntary sector to develop peer support opportunities for people with MSK conditions living in areas of deprivation.
- Use the supported self-management toolkit to identify their system improvement priorities and actions.<sup>148</sup>
- Agree a shared strategy for provision of a range of supported self-management services targeted at deprived areas.
- Be aware of the impact of food insecurity on their local population and work with local partners to mitigate this as well as seeking solutions to the underlying causes.
- Review their referral criteria and practise for surgery to ensure that BMI is not used as a bar to surgery for joint replacement.

## Digital and health literacy

Provide targeted face-to-face support for people with MSK conditions living in deprived areas to ensure that they can access any digital resource intended for their use.

## Schools

- Every child with a chronic MSK condition should have an Individual Healthcare Plan (IHP) tailored to their needs – drawn up by the school in conjunction with the child and their parents or carer.
- All schools must have a medical conditions policy in place.

## Governments

Government departments responsible for health and social care data in each nation must work to ensure the availability of data across services – including joined-up and disaggregated data for MSK services to easily access and act upon.



# Introduction

## What are MSK conditions?

Musculoskeletal (MSK) conditions cover a broad range of health conditions affecting the bones, joints, muscles and spine. Common symptoms include pain, stiffness and a loss of mobility and dexterity.

These conditions are the biggest cause of years lived with disability and one of the two biggest causes of lost workdays. The impact on individuals, society, the NHS and the economy is significant.

MSK conditions fall into three broad categories:



1. Inflammatory conditions:  
e.g. rheumatoid arthritis, axial spondyloarthritis (including ankylosing spondyloarthritis), gout, juvenile idiopathic arthritis.



2. Conditions of musculoskeletal pain: e.g. osteoarthritis, back pain, fibromyalgia, connective tissue disorders.



3. Osteoporosis

MSK conditions affect people of all ages. The onset of inflammatory conditions tends to be in childhood or younger adults. Osteoporosis and osteoarthritis are more common in later life, although often starting before retirement age.

The key risk factors for long term MSK conditions include being female, genetic predisposition, ageing, physical inactivity, unhealthy weight (under- and over-), smoking and poor nutrition.

## Why MSK matters

Musculoskeletal (MSK) health is fundamental to our wellbeing across the life course and to maintaining function into an active older age. It impacts on every aspect of life, from the simple activities of daily living that we take for granted to the activities that make life fulfilling for many, including work, learning, caring for family, travel and leisure, exercise, sport and living independently. Health policies aimed at reducing ill health in the population require good MSK health as a pre-requisite to succeed. Poor MSK health has a profound impact on individuals and a significant impact on the NHS and wider economy.

- **30%** of us have an MSK condition – that is **20,295,706** people in the UK.<sup>1</sup>
- **2%** of children and young people have a long term MSK condition – that is **216,344** in England and **18,427** in Scotland.<sup>1,1</sup>
- **1 in 5** adults will consult their GP for an MSK condition over one year, accounting for **1 in 7** GP consultations.<sup>1</sup>
- The cost to the NHS of MSK conditions in England was estimated at around **£6.3 billion** in 2022-3 – and the third largest area of NHS spend.<sup>1,2</sup>
- **30 million** working days are lost to MSK conditions every year in the UK.<sup>3</sup>
- **81%** of people with an MSK condition in England report being in chronic pain.<sup>4</sup>

i. Taken from data for England and Scotland as the information is not available for Wales and Northern Ireland.

## What are health inequalities?

Health inequalities are defined as systematic and avoidable differences in health between different social groups.<sup>5</sup> These are differences in access to and experience of healthcare and in health outcomes. As a result, a 60-year-old woman in the poorest area of England has the (diagnosed) health of a 76-year-old woman in the wealthiest area.<sup>6</sup> People living in the poorest neighbourhoods experience nearly 20 fewer years in good health and are dying around nine years earlier than people in the wealthiest areas.<sup>7,8</sup> To tackle health inequalities, the principle of health equity applies which means prioritising care and treatment based on need. Some people need more support, or a different kind of support, than others.

Deprivation in this report is defined as the consequence of a lack of income combined with other factors (including lack of access to good employment and housing, or exposure to negative factors such as crime). The Indices of Multiple Deprivation (IMD) provide a relative deprivation score by area taking all these factors into account.<sup>9,10,11</sup> Exposure to deprivation impacts a person's whole way of life.

Deprivation is also closely associated with behaviours and other habits that affect health such as smoking, high BMI, poorer diet and co-morbidities such as cardiovascular disease, diabetes and mental health.<sup>12,13</sup> This predisposes people living in deprivation to having an MSK condition, at a younger age and with worse outcomes.



# Purpose of this report

## Report Structure and Scope

It is widely understood that only 10-20% of the health of a population is determined by health care services the rest is determined by environmental, genetic and socioeconomic factors 'upstream'.<sup>14,15</sup> Therefore, this report is in two parts.

**Part II** – This section addresses the drivers of poor musculoskeletal health acting on people living in deprivation. Well established models attribute the bulk of disparities in health to these building blocks – social, economic, commercial and environmental factors (such as education, employment and living conditions). This is essential context for understanding inequalities in MSK health.

**Part III** – This addresses the part health services across the UK can play to address inequalities. It provides practical advice and signposting for NHS systems, Pain services, MSK services and healthcare practitioners who are in a position to shift the dial in the right direction. The vast majority of the evidence received for this report was from England. However, the report draws from examples from the devolved nations and the underlying principles are applicable across the UK.

## Intended audience

This report includes recommendations for:

- National and local governments.
- Local health systems – refers to Integrated Care Boards in England and Northern Ireland, Health and Social Care Partnerships in Scotland and Regional Partnership Boards in Wales.
- Community and secondary MSK services (referred to as MSK services in this report)
- Pain services.
- All professionals providing healthcare services and therapies to people with MSK conditions.
- Public health professionals.
- Employers.
- Schools and school governing bodies.
- Education and training providers.

## Focus on deprivation

In this report we have chosen to focus on the impact of material deprivation on health inequalities experienced by people with MSK conditions. We recognise that several other important social determinants, such as ethnicity, also play a significant part in health inequalities and overlap and interact with our area of focus.<sup>16, 17, 18, 19, 20</sup> The [health inequalities resource page](#) of the ARMA website includes resources related to a wide range of drivers of inequalities. However, research shows that effective communication is often achieved by focusing on one aspect of an issue rather than compiling a complex intersectional overview of the issue as a whole.<sup>21</sup> This is intended, first and foremost, as a report for practical application.

### Recommendations Key



Services, Leaders & Managers



Health Care Professionals



Government



Local health systems



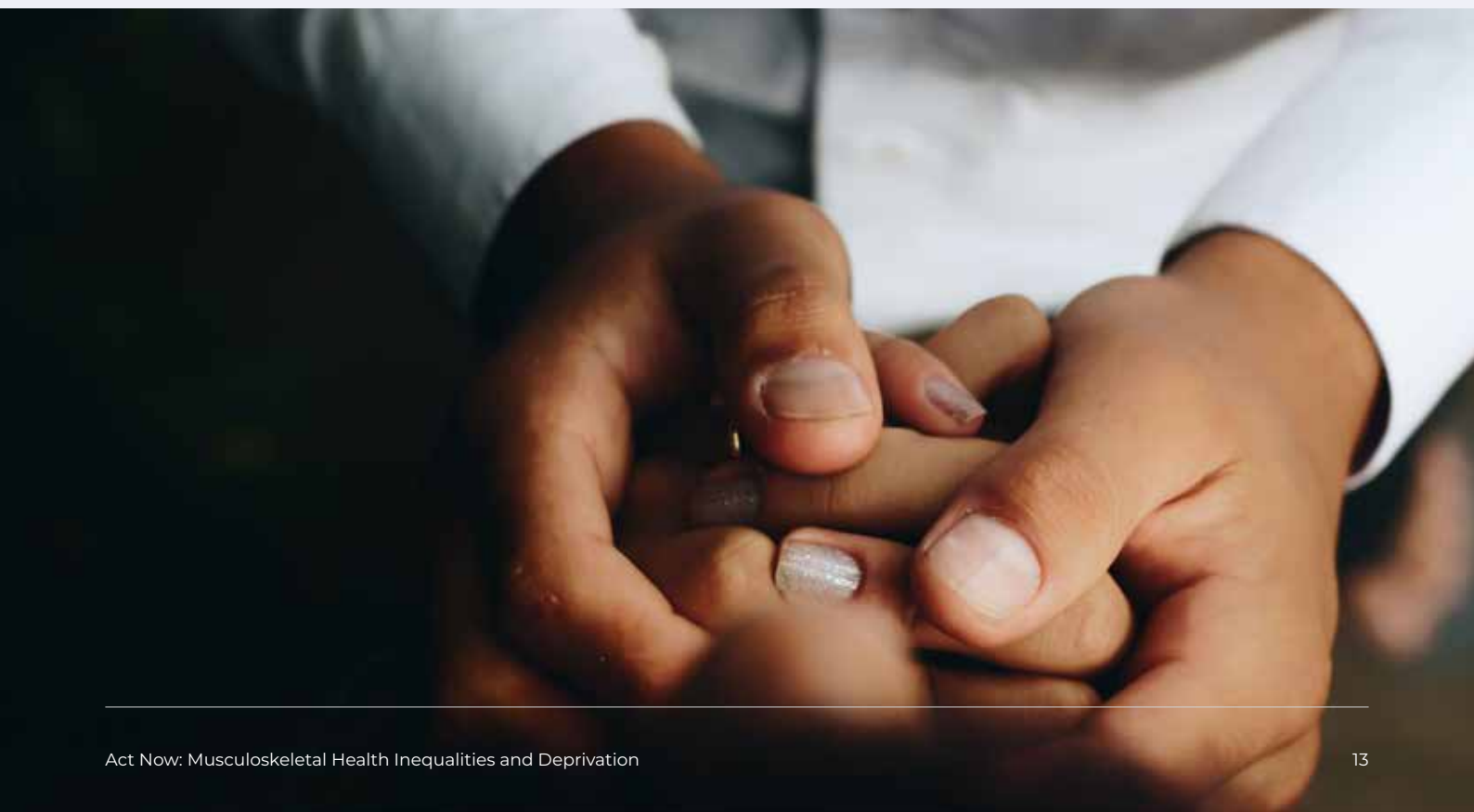
Schools



Education & Training Providers

## What we did

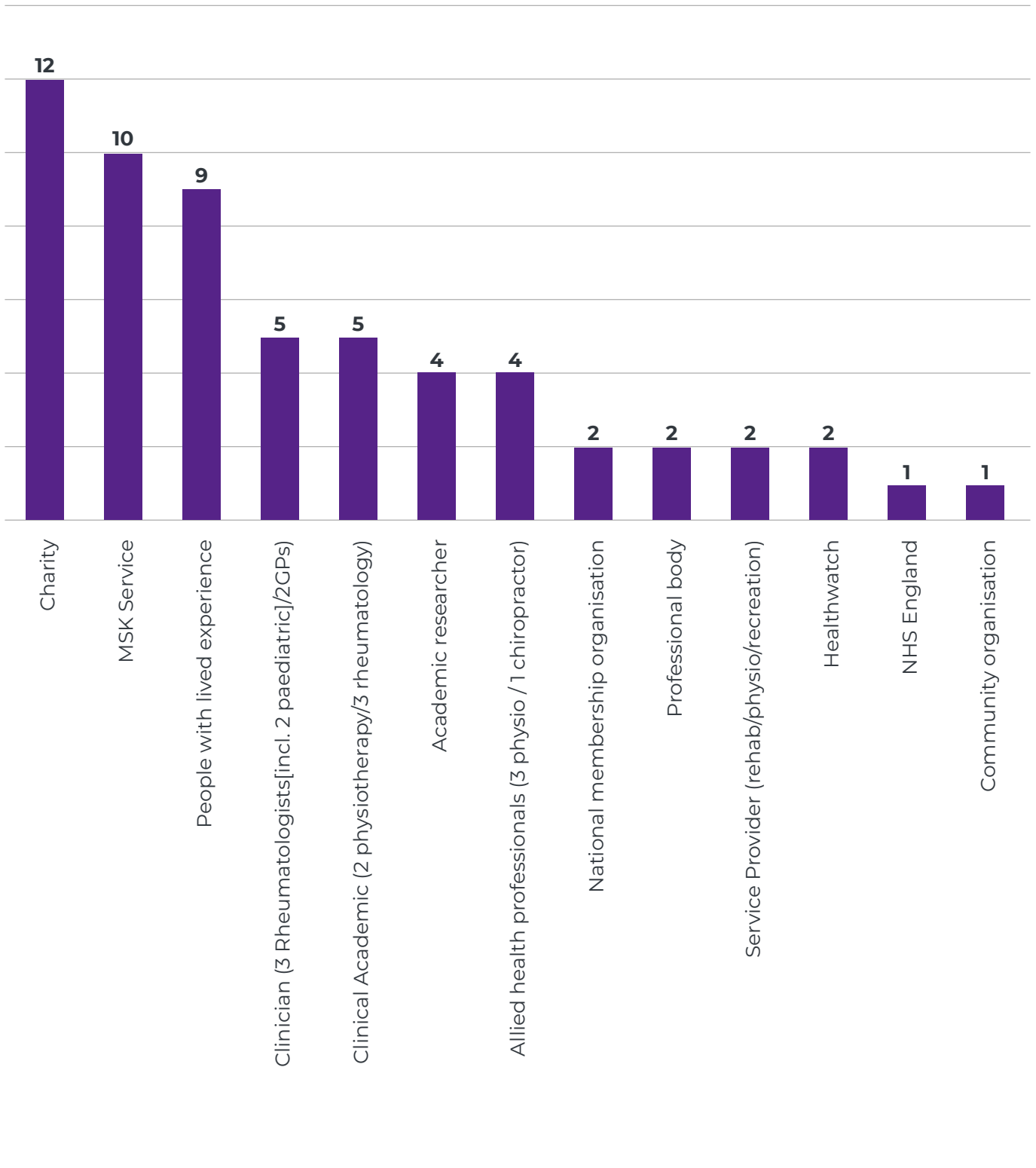
- A call for written evidence to this Inquiry was published and disseminated in February 2023. This was circulated to healthcare professionals, MSK services, academic institutions, community organisations, voluntary organisations and other stakeholders working in MSK. Several people with lived experience also responded to the call for evidence. It was a privilege to gain their insights and perspectives, which have guided this Inquiry. We would also like express our gratitude to the professionals from services, academic institutions and voluntary organisations who contributed their expertise to this report.
- Between May and October 2023 ARMA hosted four online oral evidence sessions with experts in a number of areas of MSK and health inequalities. These are available to view here:
  - [Supported Self-Management and MSK health inequalities](#)
  - [Multiple conditions and MSK health inequalities](#)
  - [Children and Young People and MSK health inequalities](#)
  - [MSK and health inequalities](#)
- An online survey was published on the ARMA website for people with lived experience, which received 339 responses. Responses were not representative with regard to income and were skewed towards the less deprived. Compared to the UK population with an MSK condition broken down by age, people over 70 and people under 35 were slightly under-represented, while people between 35 and 70 were slightly over-represented. This meant that we did not complete a statistical analysis but have used their experiences to inform the report. [\[See Appendix\]](#)
- A panel of four individuals with lived experience was established to guide and inform the Inquiry. As well as sharing the wisdom gained from their personal experience, they provided an invaluable sense check at every stage of our analysis of the evidence received, the conclusions reached, and recommendations made in this report. We are indebted to them for their commitment to the project.
- A panel of experts in health inequalities research and policy was established to guide and inform the Inquiry. They have provided advice on the evidence gathered, our analysis and recommendations.
- A literature review was completed to ensure that our findings were informed by the wider evidence and thinking in this area.



## Response to the Call for Evidence

The Inquiry received 59 written responses and was broadly welcomed. The evidence submissions gave a picture of health inequalities experienced by people with an MSK condition living in areas of deprivation. They also described many local projects attempting to address this. Representative organisations and academic institutions provided evidence of national action (and inaction) on health inequalities – including government policy and ongoing academic research.

### Evidence submissions to ARMA Equalities inquiry





# *PART I*

---

## Health inequalities and MSK

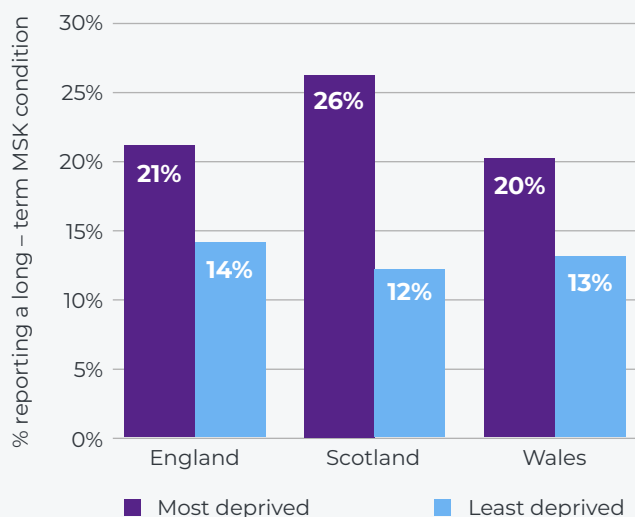
# Part I – Health inequalities and MSK

This Inquiry learned how, compared with people in less deprived areas, **people from areas of deprivation are:**

- More likely to have an MSK condition.<sup>22, 23, 24, 25, 26, 27, 28</sup>
- More likely to develop an MSK condition at a younger age.<sup>29, 30</sup>
- More likely to have poor outcomes, increase disability and reduced quality of life if they develop rheumatoid arthritis or osteoarthritis.<sup>12, 25, 31</sup>
- More likely to delay presentation to a healthcare professional meaning that when they do, the condition is more severe and clinically complex.<sup>12, 32, 33</sup>
- More likely to have two or more health conditions at a younger age.<sup>13, 29, 32, 34, 35, 36</sup>
- More likely to take prescribed medicines for pain.<sup>29, 37, 38, 39, 39</sup>
- Less likely to have good outcomes from joint replacement surgery.<sup>32, 40</sup>
- Are less likely to be in work and have a faster reduction in employment with age than people without MSK conditions.<sup>8, 41, 42</sup>
- More likely to have a worse financial situation, be less physically active, have completed less education and have less social support.<sup>8, 43</sup>

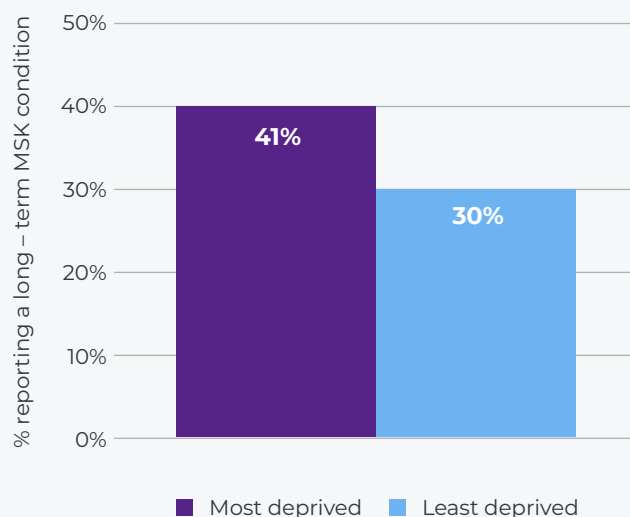
## Prevalence of MSK conditions – comparison of top and bottom deprivation quintiles

From *The State of MSK Health 2023. Versus Arthritis*.



## Prevalence of chronic pain – comparison of top and bottom deprivation quintiles

From *The State of MSK Health 2023. Versus Arthritis*.





## The current state of research into MSK health and health inequalities

Across the academic research literature, the measures of deprivation used were most often at individual level (using formal scales, education level, occupation or income) rather than area-level measures of social deprivation (such as the Indices of Multiple Deprivation in the UK) which have inherent weaknesses. They tend to under-estimate rural deprivation for example.

A number of studies (the majority looking at rheumatoid or osteoarthritis) have found an association between deprivation and MSK health.<sup>8, 12, 24, 25, 27, 32, 40, 44, 45</sup> These studies have been primarily quantitative. More research is needed (including qualitative and mixed-method research) to investigate the direction of the association, the underlying reasons for the association and the reasons behind different health seeking behaviours.<sup>23, 25</sup> Having an MSK condition impacts people's financial situation in lost employment and higher costs, therefore it is difficult to establish the direction of causality between deprivation and MSK disease.<sup>44</sup> A proportion of the association between deprivation and MSK health has been shown to be mediated through smoking, physical activity, BMI and psychological factors, though not all.<sup>24, 44</sup> Interventions aimed at these factors may, therefore, help to reduce the incidence of MSK. A systematic review of research studies that evaluated interventions for MSK conditions found that very few studies collected socio-economic data to allow for an assessment of whether interventions were equally effective across social groups and what impact they may have on health inequalities.<sup>46, 47</sup>



## The Inverse Care law

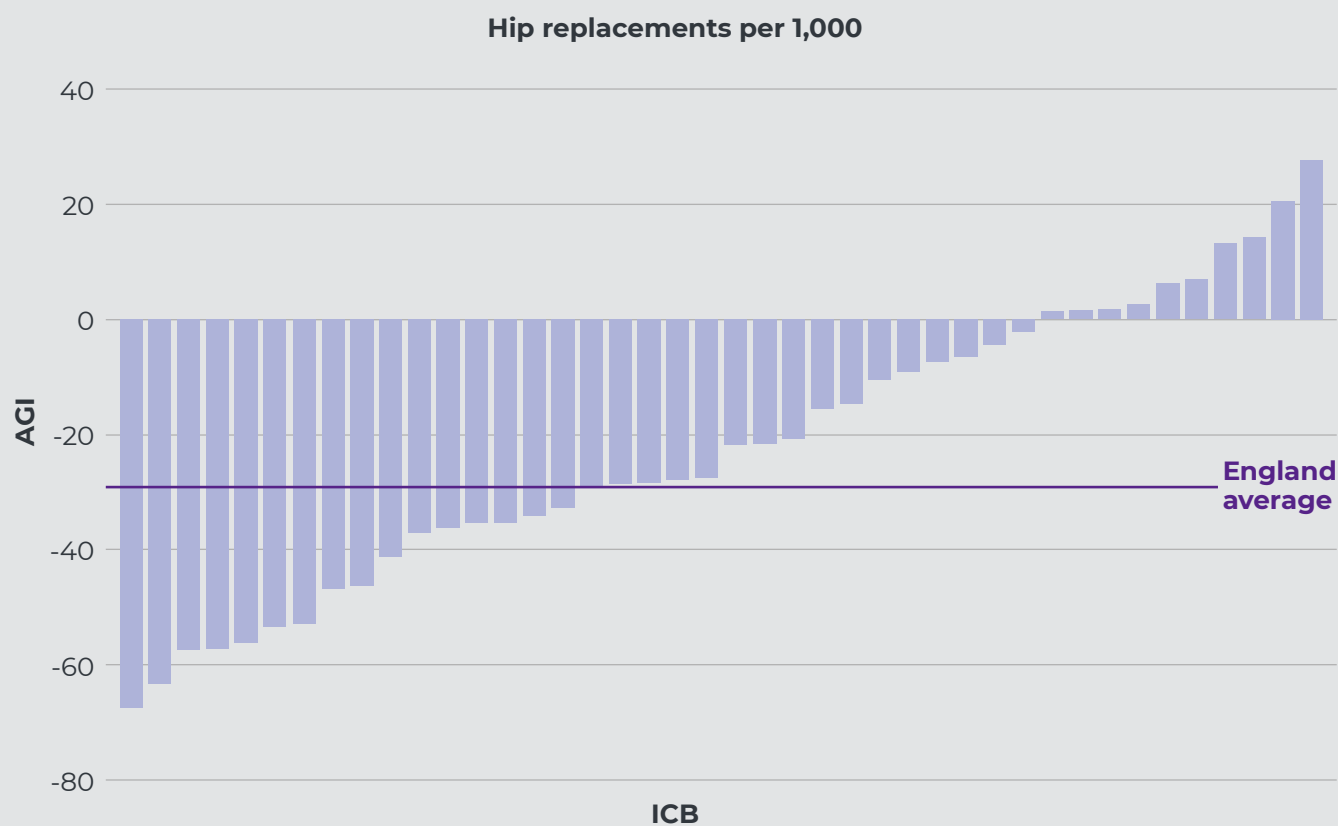
On top of the evidence of health inequalities, a phenomenon known as the inverse care law has been observed.<sup>48</sup> This refers to the fact that people who most need healthcare are, perversely, the least likely to receive it.<sup>49</sup>

Evidence of the inverse care law received by the Inquiry:

- Hospitals serving areas of deprivation are less likely to provide pain services of the highest quality. Research found that hospitals in these areas were less likely to have a full multidisciplinary team including an occupational therapist, pharmacist and then one of physiotherapist or psychologist.<sup>50</sup> This is despite the fact that people in these areas are more likely to require greater multidisciplinary support because they experience more physical and mental health comorbidities, as well as more severe and disabling pain.
- People living in deprived areas are more likely to need a hip or knee replacement but are less likely to receive one on the NHS, than people living in less deprived areas.<sup>51, 52, 53</sup>
- In North Staffordshire and Stoke-on-Trent, there is a 2-to 5-fold difference in prevalence of chronic pain between neighbourhoods, with the highest prevalence in the most deprived neighbourhoods.<sup>28, 54</sup> However GP practices in deprived areas are relatively *underfunded*, *under-doctored* and perform *less well* than practices in less deprived areas.<sup>29, 55, 56</sup> This is significant given that GPs are crucial in the ongoing management of MSK conditions. Workforce inequalities of this nature are observed across the UK and are caused in part by ongoing difficulties recruiting to areas of deprivation. These areas need recruitment support and incentivisation to expand the primary care workforce to meet need and to lessen health inequalities.<sup>56</sup>
- Polymyalgia rheumatica (PMR) (a common autoimmune inflammatory MSK condition in older people) is less frequently diagnosed in the north of England than the south. This may be due to increased levels of co-morbidity in deprived areas which delays or masks a PMR diagnosis. PMR is diagnosed in 0.3% of the most deprived fifth of the population compared to 0.8% of the top three quintiles.<sup>57</sup>
- A representative from an NHS Trust in Yorkshire told the Inquiry that they had identified that more referrals were coming from affluent areas than the most deprived areas in their catchment.<sup>57</sup>
- The NHS England submitted written evidence [see Fig.1] regarding NHS-funded hip replacements within ICBs in England.<sup>58</sup>



**Figure 1. – Absolute Gradient of Inequality: rate of hip replacements per 100,000 population (2019-21).**<sup>58</sup> The Absolute Gradient of Inequality (AGI) measures differences in activity rates between more and less deprived areas. A positive AGI means that there is more activity in deprived areas. Negative AGI indicates lower activity in deprived areas.



Despite the knowledge that: hip arthritis is greater in more deprived populations<sup>59</sup>; rates of primary care consultations for osteoarthritis are higher for people living in more deprived areas<sup>59</sup>; and people living in areas of deprivation are at greater risk of hip pain which is strongly correlated to a greater need for surgery<sup>51,52</sup>; NHS England found that:

- **32/42 ICBs in England had lower rates of hip replacement in deprived areas.**<sup>ii</sup>
- The 10 most deprived ICBs in England *all* had lower rates of hip replacement in deprived areas.
- A more detailed analysis within one NHS Region found that areas of deprivation with low activity rates tended to be in urban and ethnically diverse populations. Areas of deprivation which bucked the trend and had higher activity rates tended to be in rural and less ethnically diverse populations.

ii. 'Deprived areas' refers to Lower Layer Super Output Areas (LSOA) – a geographical hierarchy designed to improve reporting of small area statistics.



# *PART II*

---

## The drivers of poor musculoskeletal health

# Part II – The drivers of poor musculoskeletal health

The majority of our health, and also of health inequality, is not driven by healthcare. It has been estimated that 50% of our health is determined by socioeconomic factors and our environment. Another 30% relates to health behaviours that are impacted by factors outside an individual's control. **Only 20% of our health relates to healthcare.** The NHS cannot address the inequalities in health alone. Government and other stakeholders also need to take action, locally and nationally, to address these wider socioeconomic and environmental factors.

If they are to tackle MSK health inequalities, MSK services and MSK healthcare practitioners need to be mindful of this wider context.

MSK health is vital to healthy life expectancy as it is the biggest cause of years lived with disability in the UK.<sup>60</sup> A recent report from the Office for Health Improvement and Disparities in England (OHID) on the drivers of healthy life expectancy identified MSK health as the most significant contributing condition, due to a combination of impact on health and high prevalence.<sup>61</sup> Given the significance of MSK health to our ability to live independent and full lives, and the impact of poor MSK health on society and the economy, anyone seeking to improve healthy life expectancy should be considering MSK health.

Both the Marmot Commission (England) in 2010 and the Christie Commission (Scotland) in 2011 set out the social determinants of health inequalities and made recommendations.<sup>62, 63</sup> These inequalities are reflected in the MSK health of the population. The difference in the prevalence of long term MSK conditions between the most and least deprived areas of the UK is significant, and in Scotland is double. Health outcomes for people with MSK conditions are also unequal. For instance, patients with rheumatoid arthritis and lower socio-economic status (SES) have poorer disease outcomes compared with patients with higher SES.<sup>25</sup>

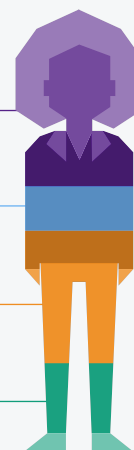
## Impact on health outcomes

40% Socioeconomic Factors

10% Physical Environment

30% Health Behaviours

20% Health Care



Not all long term MSK conditions or poor outcomes can be prevented, but inequalities show us that a significant proportion could be.

However, since 2010, healthy life expectancy has declined for women and the percentage of life spent in ill health has increased for men and women in both England and Scotland.<sup>8, 57, 58</sup> Those in poorer areas are spending more of their shorter lives in ill health. MSK is a significant driver of this ill health. Since 2010, many, but not all, policies in health and social determinant areas have run counter to the Marmot Review's recommendations.<sup>7</sup>

The many reports into health inequalities have identified a range of intersecting drivers of health inequalities. These include housing, air pollution, social networks, smoking, poverty and racism. This report focuses on four drivers which are particularly relevant to MSK health; poverty, education, healthy weight and physical activity. Addressing these is not merely a case of changing individual behaviour, nor provision of interventions aimed at individuals. It also requires local and national policy change to address the social, economic and commercial determinants of health, and action by a range of stakeholders including the private sector. Where this action is aimed at specific communities it is essential that an asset-based approach co-produced with those communities will be most effective.<sup>64, 65</sup>

# Poverty

Of the sociodemographic factors driving healthy life expectancy, income in the lowest quintile is the second only to age as a driver of low healthy life expectancy (including poor MSK health).<sup>61</sup>

People with MSK conditions living in poverty have less control over their lives and less ability to address modifiable risk factors.<sup>62, 66</sup> This adds to the disadvantage built into society and the environment. The inquiry heard how some people in poverty do not prioritise seeking treatment for even significant MSK health problems. The challenge of feeding the family and paying bills takes all their focus, leaving no time or energy to seek treatment.

Child poverty has been identified as of particular concern across the UK as it results in a lifelong disadvantage.<sup>62, 67</sup> The foundations of good MSK health are built in childhood, and poor MSK health often has its origins in childhood and adolescent physical development.<sup>68</sup> It is therefore a concern that in the UK there were 2.3 million children living in households with absolute low income in 2021. There is huge variation by local authority in the proportion, ranging from 3% of children to 42% of children.<sup>69</sup>

Poverty is not inevitable. In 2016 the Joseph Rowntree Foundation set out a comprehensive strategy for ending poverty.<sup>70</sup> Implementing policy approaches along these lines is an essential part of reducing MSK health inequalities.



# MSK, employment and poverty

The relationship between deprivation and health, including MSK health, is two-way. On the one hand people living in deprivation are more likely to develop an MSK condition, and people are also more likely to face financial hardship as a result of their condition due to having to reduce or leave employment. Someone whose family becomes workless is seven times more likely to move into very deep poverty than someone in a family where at least one adult remains in work (21% vs 3%).<sup>71</sup> Lack of progress in reducing health inequalities since 2010 has been exacerbated by lack of work, poor work or missing work through illness.<sup>7, 43, 71</sup>

People with arthritis are 20% less likely to be in work and have a faster reduction in employment with age than people without arthritis.<sup>42, 72</sup> This is more pronounced for people in manual roles, compared to people educated to university level.

These factors are particularly important for children with MSK conditions whose education has been disrupted by illness. They may be further disadvantaged by a reduced ability to work due to their condition, placing them at high risk of living their lives in poverty and increasing the chances of poorer treatment outcomes.

Despite this vulnerability to unemployment, in 2020 77% of Clinical Commissioning Groups in England (CCG) reported that none of their services were commissioned specifically with employment needs or vocational rehabilitation in mind.<sup>73</sup> In the absence of adequate NHS rehabilitation services, people who do not have access to occupational health services are left unsupported to return to work.<sup>74</sup>

Employers have a significant role in supporting people with MSK conditions to secure and remain in employment. Several people with lived experience told the Inquiry about the difficulty they experienced trying to remain economically active without their employer's support.

*"I was employed as a specialist midwife for the NHS... after 7 years of continuous service, the head of the hospital decided to 'let me go' due to my EDS. I had in writing from the other practitioners and head professor that they were very happy with my work and completely supported me... I did not have a day off due to EDS... I was devastated and broke with two children."*

Person with lived experience

*"I have now lost my job due to my inability to work and slow recovery due to mistakes made during post-op care. This has had a significant financial impact on me and my family as I am receiving statutory sick pay but now, I only receive a state pension and Disability Living Allowance."*

Person with lived experience

*I have looked after families where parents have lost their jobs due to time looking after their child in the tertiary centre due to their autoimmune disease."*

Paediatric rheumatologist based in the North West of England

Support from employers might include reasonable adjustments (if their condition means they meet the definition of disability in the Equality Act 2010), or minor adaptations, flexibility and phased return to work for those who have been absent for treatment and self-management support. The UK government has recently consulted on a proposed new voluntary minimum framework for occupational health provision which may go some way to ensuring that people living in deprived areas have greater access to occupational health.<sup>75</sup>



### Resources

Support and advice for employers and further education institutions about how to support employees with MSK conditions can be found here:

- [The Musculoskeletal \(MSK\) Health Toolkit \(Adults\)](#)
- [The Musculoskeletal \(MSK\) Health Toolkit For Employers And Further Education Institutions \(Young People\)](#)

### Benefits

Disabled people have a high risk of very deep poverty, but the receipt of benefits such as Personal Independence Payments has a significant positive impact.<sup>76</sup> It is vital that people with MSK conditions are able to easily access such benefits. The Inquiry heard about difficulties in access to financial and other support (such as blue badges or home adaptations) for people living in deprived areas, including a lack of expertise amongst benefits assessors around some MSK conditions such as lupus.<sup>76</sup> Healthcare professionals told the Inquiry about their time consuming attempts to help families of children with MSK conditions living in deprived areas to access financial support – and their frustration when patients do not reach thresholds for support even though they are evidently in need.<sup>77</sup>





# Education

Education is a major driver of healthy life expectancy – having no qualification is equivalent in impact to poverty.<sup>61</sup> Educational outcomes are linked to physical and mental health, employment prospects, behaviours and future living standards. The Marmot Commission made a series of recommendations related to improving educational attainment of children facing disadvantage, recognising its importance to health.<sup>62</sup>



Educational attainment also has links to the ability to develop good health literacy and the digital literacy required to take full advantage of the increasing use of digital technology in modern health services.<sup>78, 79, 80, 81</sup> Improving educational attainment will also, therefore, help reduce inequalities in access to healthcare.

Children and young people with MSK conditions also experience disadvantage in education. They may miss learning due to illness and medical appointments. Children and young people with MSK conditions living in deprivation will face a dual disadvantage and require additional support in education. Schools should support children with long term MSK conditions to catch up if they fall behind because of their condition. They should also be supported to feel included in the school and not penalised due to absences related to their condition.

# Modifiable risk factors

As well as socio-economic factors, there are modifiable risk factors which have a significant impact on health. Being inactive has the biggest impact on healthy life expectancy, followed by living with obesity.<sup>61, 82</sup> Activity and healthy weight are significant in maintaining MSK health, and in achieving good outcomes for those with existing MSK health conditions. However, it is important to remember that modifiable risk factors are not merely a matter of individual choice or lack of will power. Our environment, culture and food system all drive behaviours at a societal level. Changing behaviours is difficult, and people will need more than information and advice to make successful long term changes in lifestyle.

## Physical activity

Being physically active at all ages is important for MSK health.<sup>83, 84</sup> Any inequalities in activity levels will therefore be a contributing factor in inequalities in MSK conditions.

Activity levels for adults in England increased in 2023 and are now back to where they were before the pandemic. However, this global improvement hides inequalities. Before the pandemic the most deprived areas had lower levels of physical activity than the least deprived (58.5% compared with 67.6%). Areas of deprivation saw the steepest drop in activity levels during the pandemic and the slowest recovery. The most deprived places now have activity levels below both pre-pandemic (down 3.1%) and November 2015-16 levels (down 2.6%).<sup>85</sup>

There are many potential reasons for the lower levels of physical activity in areas of deprivation. Positive mental wellbeing, perceived measures of safety and measures of social capital are associated with meeting recommended levels of physical activity.<sup>86</sup> All of these are likely to be lower for many people living in more deprived areas.

Those who are struggling to feed a family and pay bills, or juggling childcare with insecure employment, will find it hard to address their activity levels. Addressing these barriers to physical activity in more deprived areas is an essential contribution to addressing MSK health inequalities.

## Weight

Unhealthy weight is associated with MSK conditions. Being overweight exacerbates joint pain and underweight is a risk factor for osteoporosis.

The UK has some of the highest rates of people living with obesity in Europe and there are significant inequalities.<sup>87</sup> In the most deprived quintile in England, 30% of men and 40% of women are living with obesity compared with 21% of men and 19% of women in the least deprived quintile.<sup>88</sup> These inequalities begin early in life. Of reception children living in the most deprived areas, 13.6% were living with obesity compared to 6.2% of those living in the least deprived areas. By year six this rises to 31.3% of children living in the most deprived areas compared to 13.5% of those living in the least deprived areas. This difference has increased in the last 10 years.<sup>89</sup>

This data suggests that increasing levels of obesity are not caused by individual characteristics. They are a reflection of a food system which is unequal.

The Food Foundation identifies three ways in which the food system disincentivises healthy eating: Affordability – More healthy foods are over twice as expensive per calorie as less healthy foods; Availability – People living in areas of deprivation more likely to be exposed to unhealthy food; Appeal – A disproportionate percentage of advertising by food and non-alcoholic drink companies is spent on marketing foods which are detrimental to the country's health.<sup>90</sup>

Unhealthy weight is a consistent pattern amongst those who experience food insecurity.<sup>91</sup>

The Government food strategy notes that *"The link between deprivation and dietary outcomes is not only about the cost of healthier food. It is also about having the equipment, cooking skills, and time to prepare and cook healthier food than more convenient alternatives, which can be high in fat, salt and sugar, and may not be as readily available to those on low incomes."*<sup>92</sup>

Given the strong links between MSK health and healthy weight, action to address poor dietary outcomes in deprived areas must play a part in tackling MSK health inequalities. Healthy diet early in life is an essential precursor to lifelong good MSK health. Therefore, actions to address healthy diet need to start at a young age.

## Solutions

There are steps that MSK services can take to support patients to increase their levels of physical activity and maintain a healthy weight. However, addressing these two key modifiable risk factors will be challenging without addressing the underlying system and societal drivers. Resources need to be targeted to the most deprived areas and investment must be focused on strengthening resilience of communities.

Organisations working to increase levels of physical activity should focus on areas of deprivation and co-produce initiatives with local communities, including with children and young people.

Local authorities should prioritise health in their planning decisions related to food outlets. Schools and employers should promote and support physical activity and healthy eating amongst staff and students while at work/education.

Measures to address healthy eating in more deprived areas must be supported by national government action to create a more favourable food system, making healthy food more affordable and available. In 2019, the government commissioned Henry Dimbleby to carry out an independent review of the UK food system. The report published in 2021 made recommendations for government.<sup>93</sup> The final government response was criticised by the original report's author as it ignored a significant number of the recommendations, importantly for this report including the recommendation to use revenue from sugar and salt taxes to fund healthy food for those in poverty.<sup>94</sup>



# Local and national policy

All policy decisions at local and national level have an impact on health, including MSK health. Decisions about education, transport, food policy, employment and benefits can all have a positive or negative impact.

Possibly most significantly, economic policy currently measures prosperity solely through GDP, with no consideration of health or wellbeing. This drives decision making in the wrong direction; GDP places no value on health but does value ill health (for instance, both sales of unhealthy food and treating obesity related ill health, including MSK pain, will increase GDP). The World Health Organisation Council on the economics of health refers to this as a "pathological obsession with GDP".<sup>95</sup> This focus on GDP alone ignores the links between health and wealth, currently obvious in the challenge of increasing economic inactivity in the UK related to ill health at a time when companies are struggling to find the workforce they need.

In Wales and Scotland there have been moves towards taking this wider lens, such as Wales' health impact assessments for all policies.<sup>96</sup> However, Westminster continues to take increasing GDP as the sole measure of prosperity so incentivising policies which are damaging to health. Local and national governments should consider impact on health and health inequalities as part of all policy decisions. Healthy life expectancy is a simple measure which, if reported alongside GDP, would move decision making in the right direction. Given the significant contribution of MSK conditions to healthy life expectancy, this should lead to greater focus on reducing the inequalities in the MSK health of the population.

## Conclusion

We are currently seeing a significant amount of avoidable MSK ill health, and poor health outcomes, which has a high cost for individuals, families, the NHS and the economy. This avoidable ill health is much higher in more deprived areas which gives a strong indication of where attention should be targeted.

There is public support for taking action. Recent polling (September 2023) showed that just 16% of the public think the government has the right policies to improve public health, while half (49%) disagree. More than half (55%) of the public support local authorities having greater responsibility to implement policies to reduce harm from tobacco, alcohol and unhealthy food, with only 21% opposed.<sup>97</sup>

The next section of this report looks at the significant contribution the NHS can make to reducing MSK health inequalities. But without the actions set out in this section the impact can only be partial. Analysis carried out by the Institute for Public Policy Research into health inequalities concluded that "the barrier to change is less a lack of evidence – but rather an inability to put that evidence into practice."<sup>98</sup> Concerted effort across governments, civil society, public services and industry is also required to implement the evidence informed policies advocated in the myriad of reports published in recent years. The evidence shows that such action would significantly improve the health, including MSK health, of the population, reducing the burden on individuals, families, the NHS, economy and society.

# PART III

---

## Addressing health inequalities

This part of the report looks at what healthcare professionals, MSK services and local health systems can do to address MSK health inequalities. People experience inequalities in MSK health *outcomes* and *health care*. Inequalities in outcome are significantly driven by wider determinants of health. Addressing inequalities in health care (access to and experience of healthcare services) is the responsibility of the NHS.

# Part III – Addressing health inequalities

## Recommendations



Education and Training providers should ensure they equip the MSK workforce to address health inequalities.



## Embedding service delivery in the community

### Moving service delivery into the community

The integration of health services, local authorities and other providers has facilitated creative solutions to reduce health inequalities and better meet the needs of people with MSK conditions living in deprived areas. Likewise, place-based healthcare, involving primary, community and secondary health services as well as other neighbourhood or community assets, offers new ways to unlock improvements in prevention and care in areas of deprivation. The Fuller Stocktake report (2022) outlined how neighbourhoods can make progress towards improving the health and wellbeing of local communities and tackling health inequalities by working with communities, using data effectively and developing close working relationships between primary care and local authorities.<sup>99</sup>

Several submissions to the Inquiry described clinical and rehabilitation MSK services that have been moved out of hospitals and into the community as a way of addressing health inequalities.<sup>100–102</sup> Offering MSK services in the community is frequently suggested as a way of improving access for people living in areas of deprivation.

**A community MSK service in the North East** told the Inquiry about how they identified that a number of groups were under-represented in their service, including men, people from deprived areas and people from ethnic minority groups. They are making plans therefore to move service delivery to local council gyms, church halls and community centres in an effort to reach these under-served groups and reduce health inequality.

### Recruiting from the local community

Several sources of evidence to the Inquiry described the importance of practitioners knowing the area their service operates across personally.<sup>103, 104</sup> This may not be feasible for some MSK services – tertiary services for example – who must rely on data to know their population because of the large geographical area covered. Recruiting from the population served offers the benefit of allowing patients to see themselves reflected in the service and means that staff know the local facilities and services. It may also increase the chances of culturally competent communication, which is especially important with socio-economically disadvantaged populations.

**A First Contact Practitioner (physiotherapy) service in the North East of England** serves a Primary Care Network (PCN) covering a large, mostly rural area. The service has been running for two years and has now reached full capacity, delivering around 1,000 face-to-face appointments per month. Overall, 99% of patients seeing the FCP (physiotherapist) do not need to be seen by a GP.

In their evidence submission they described how they have tended to employ people who live in the community. It helps to ensure that they understand the realities of rural life and local services.

### **Inequalities observed across different communities in the area**

The area contains:

**A market town with very low levels of social or economic deprivation.** Typically, patients from this area present early and are proactive in seeking help. They are very willing to take on exercise and other self-management advice and are more cautious about passive treatments (e.g. steroid injections). They are willing to accept arguments that imaging is not helpful.

**One more deprived town.** Typically, patients from this area have high levels of chronic pain, but the pain service is 58 miles away. They find it difficult to attend the 12-session pain management course at a pain service which is so far away.

**Ex-mining areas, with high unemployment (including second and third generation worklessness).** Typically, patients from this area have higher levels of chronic pain. They tend to be more complex with multiple MSK conditions and other comorbidities including mental health conditions. They have more passive health-seeking behaviour and were used to having regular steroid injections before the FCP service was established. A legacy of sub-optimal health management and manual work has resulted in a reliance on prescriptions analgesics, steroid injections and opiates in this area. Empowering them to take a preventative approach and to self-manage their MSK is challenging.

**More rural areas – people work for landowners.** Patients from this area are often on low pay and living on properties owned by the landowner. Their housing is dependent on continuing to work and people are reluctant to take days off sick. They may decline necessary treatment if it requires that they take time off work. They live a long journey away from the nearest hospitals and there is little or no public transport. They value the ability to have a face-to-face appointment in a local surgery.

## **Recommendations**



Leaders and managers of MSK services should recruit staff where possible who reflect the cultural and ethnic make-up of the population being served – and are in-step with local concerns.



Leaders and managers of MSK services should consider how they advertise roles, where they advertise and how they use available networks, to encourage as many applicants as possible that reflect the population of the area served to apply.



## Inclusion health – people experiencing homelessness

Under-served groups are typically those people who experience multiple risk factors for poor health such as poverty, violence and complex trauma. These inclusion health groups include people who experience homelessness, drug and alcohol dependence, vulnerable migrants, Gypsy, Roma and Traveller communities, sex workers, people in contact with the justice system and victims of modern slavery.<sup>105</sup>

This Inquiry received a number of submissions that highlighted the issue of people who are experiencing homelessness – who are three times more likely to have an MSK condition than the general population, more likely to fall, to have multi-morbidities and to be at a high risk of fracture from osteoporosis than the general population.<sup>106, 107</sup> Fracture Liaison Services (which systematically identify people with osteoporosis when they present with a fracture) are not yet available in all areas despite the clinical and cost-benefit of these services.<sup>74, 108</sup>

The Inquiry heard about common practices that increase health inequality for this group, such as appointment letters which can be difficult to collect and fixed appointment times that may be difficult to attend. This practice can result in the discharge of homeless patients who do not attend.

*"There are very few flexible and accessible physiotherapy services in the UK, with most people experiencing homelessness needing to navigate mainstream NHS services."*

Physiotherapist and clinical academic<sup>109</sup>

The evidence received pointed to the need for flexible MSK services delivered in the community on more of a drop-in basis, possibly in collaboration with local homeless charities.

## Drop-in physiotherapy for people experiencing homelessness

A university physiotherapy lecturer arranged for physiotherapy students to provide drop-in sessions and advice sessions through links with a local charity café for people experiencing homelessness.<sup>110</sup> Once a week, two third year physiotherapy students volunteered at the café which provides hot food and drinks, clothing, washing facilities, benefits and accommodation support as well as access to phone calls and phone charging. The students both spent time with people experiencing homelessness, learning about their challenges and needs, and also provided a physiotherapy clinic. In their evaluation of the project, they noted the value of the project to students for improving their empathy and congruence with clients whose daily life is far from their own experience and who have often experienced stigma from health services in the past. Students had to adapt advice to the client's circumstances and deliver health information carefully to ensure that it was both practical and understandable.

**The NHS Greater Glasgow and Clyde outpatient physiotherapy service** provides appointments in local community health centres, drop-in physiotherapy clinics in day centres and soup kitchens and a domiciliary service to people living in hostels, rehab units and prisons.



**Forgotten Feet is a charity** operating across the UK in shelters for people experiencing homelessness. Volunteers, working in pairs, provide drop-in podiatry and MSK care to this underserved group, many of whom are experiencing foot pain. People who take up the offer of a podiatry service are more likely to see other health professionals. They will often discuss other health concerns during treatment, and volunteers can take the opportunity to signpost them to other health services.

**A community MSK service in the North East of England** held a drop-in session at a local homeless charity 'warm spaces' afternoon.

## Recommendations



Leaders and managers of MSK services should identify the inclusion health groups in their area in order to develop a tailored offer for these groups including flexible, drop-in services, and partnerships with voluntary or community organisations.



## Community engagement, co-production and building trust

Several submissions to the Inquiry described the need for engagement with people with MSK conditions in their community in order to understand what they need, how they need it delivered and to foster trust and confidence in MSK services. Without effective engagement, some groups including people living in deprived areas or people experiencing homelessness will be under-served.

The Inquiry heard how MSK services can adopt an asset-based approach focused on opportunities and assets in the community as well as their needs. This often results in innovative community-generated solutions to problems.<sup>111, 112</sup> Community assets are already established and can be accessed by service staff to engage people from the community where they already are.

Community assets include:

- **Individuals:** including community and faith leaders, learning from the recent use of community champions in the COVID-19 vaccination campaign. Other individuals with expertise who MSK services may be able to access to assist engagement include Core20PLUS Community Connectors (a recruitment programme to recruit, mobilise and support influential community connectors to take practical action to improve health inequalities) and local social prescribing link workers.<sup>113</sup>
- **Spaces:** such as local 'Warm Spaces' which people from deprived areas use, foodbanks and village halls.
- **Organisations in the community:** such as homeless charities, voluntary and community organisations and faith groups who have established relationships with local people in deprived areas and can provide the wealth of their experience.

From a variety of contributions to this Inquiry, there were some common principles for successful engagement and co-production:

- A genuine commitment to collaboration and communication.
- Integration of diverse lived experience perspectives at every level of decision-making which respects their knowledge of what works for them.
- Willingness to try creative proactive strategies to find out about what people find difficult when accessing MSK services and what they feel they need to support them to manage their condition.
- Outreach activities that are high quality, local and convenient. This means not conducting outreach in health settings for example, but finding people where they are in the community – using community assets such as church halls, community cares, hairdressers and foodbanks.
- This process of engagement needs to be continuous and ongoing.



### Resources

Support for engagement and co-production can be found here:

- [Versus Arthritis – Involving people with MSK conditions in shaping local services](#)
- [NHS England Co-production Toolkit](#)
- [ARMA– partnership-with-patients](#)
- [www.leadershipacademy.nhs.uk](http://www.leadershipacademy.nhs.uk)
- [www.coproductioncollective.co.uk](http://www.coproductioncollective.co.uk)

**A consultant rheumatologist at a teaching hospital in Yorkshire** told the inquiry about their Quality Improvement strategy for their service for patients with polymyalgia rheumatica (PMR). Having noted that PMR is less frequently diagnosed in patients living in areas of deprivation, the concern was that inequality would be ‘baked in’ unless under-served groups had their voice heard. They therefore undertook a patient involvement project and wider survey using voluntary sector partners to gain the patient perspective. The question ‘Is it easy for you to attend appointments?’ was included in the patient survey as a proxy for level of deprivation and health literacy in order to avoid asking potentially intrusive questions about income or education. Improvements have been made to the service to better meet patient priorities, with particular focus on the responses of patients who described it as ‘difficult to make appointments.’

## **Tackling Healthcare Inequalities for people experiencing musculoskeletal problems in Enfield – a case study**

### **Background**

In October 2022, the Royal Free London and Royal National Orthopaedic Hospital jointly inaugurated the Enfield Musculoskeletal Community Health Hub (MSK Hub) in the London borough of Enfield. This collaborative effort was undertaken in partnership with the Enfield Borough Partnership and the North Central London Integrated Care Board.

The MSK Hub was deliberately established in this neighbourhood due to its high levels of deprivation, ranking among the top 10% of deprived areas in England. A preliminary examination of the patient demographics at the MSK Hub revealed that individuals seeking care were experiencing lower levels of deprivation compared to the average in the Enfield borough. Based on this observation, we inferred that the individuals facing the highest degrees of deprivation within the local area were not availing healthcare services for their MSK conditions.

Extensive engagement efforts were carried out in collaboration with community leaders and organisations, in partnership with the Enfield Borough Partnership and the North Central London Integrated Care Board. A strategic decision was made to collaborate with community groups dedicated to addressing food poverty. As part of this initiative, three members of the team volunteered at a local food bank to closely observe the recipients and gain insights into their MSK needs. These volunteer activities provided opportunities for informal discussions with the beneficiaries, which played a pivotal role in shaping the service's design. Some of the key insights that emerged for the service design included:

- Many people accessing the food bank experienced MSK problems. Despite these problems, many of this group of people did not access healthcare to address their issues.
- Some people felt that accessing healthcare for MSK problems was less of a priority than work, feeding their families or heating their homes. This was particularly true of people that were in poverty and were reliant on food banks. If access to healthcare was made ‘easier’ people would be more likely to attend.
- Some people described getting access to primary care services as challenging.
- Some individuals expressed a preference for going to A&E rather than seeking primary care services through their GP. This was particularly true of individuals who had perceptions of long waiting times or being unable to secure an immediate face-to-face appointment. A&E was seen as a viable option because people are unlikely to be turned away.

- Trust in NHS services was lacking, particularly where patients encountered difficulties in accessing services virtually during the pandemic.
- Within the borough, a subgroup of patients did not possess smartphones for accessing online self-referral portals. Some patients felt abandoned, and, in response, specific appointments were scheduled with patients to ensure their availability for in-person consultations.
- The local area had a diverse population with numerous ethnic minorities. It was crucial to ensure that documents were translated, and interpreters were readily available to facilitate one-on-one interactions with patients during clinic visits.

From these engagement efforts, it was decided that a direct referral from community providers such as food banks and community kitchens would benefit the benefactors they serve. A community outreach clinic was established; clinical experts attended community locations and people with MSK problems who needed care were directly referred into a community MSK outreach clinic.

The outreach clinic was launched in July 2023, and within the initial four months, it served 36 patients. All patients are requested to fill out the MSK-HQ and EQ5D5L questionnaires, which are available in multiple languages. For patients who are proficient in English, an additional PHQ-ADS questionnaire, designed to measure anxiety and depression, is administered. Furthermore, all patients are extended an invitation to participate in a qualitative interview aimed at comprehending their experiences within the broader research program.

Preliminary findings reveal that all patients attending the MSK Hub outreach clinic necessitate onward referrals for rehabilitation or secondary care orthopaedic services. Outreach clinics have been extended to multiple locations within the local community, including mosques, food banks, community kitchens and discussion groups. These initiatives are continually evolving as part of an ongoing commitment to a continuous improvement approach.

## Building trust

In her oral evidence to the Inquiry, Dr. Aoife Molloy described how trust and health-seeking behaviour are increasingly being recognised as determinants of health, predictive of health outcomes. She talked about the stigma that people facing healthcare inequalities still face when they come into contact with services. In his oral evidence, Andrew Bennett, Consultant physiotherapist and National Clinical Director for MSK at NHS England, described how lack of trust could be overcome by embracing the principles of:

1. Shared ownership of health services between clinicians and patients (including co-production); and
2. Personalised care – whereby ‘what matters to you’ is central to the conversation between clinician and patient (see [‘The conversation’](#)).

MSK services told the Inquiry about their experience of building trust with people with an MSK condition who may have lived with chronic pain for a long time or who have had negative past experiences with the health service. The latter was highlighted as a particular issue for some ethnic minority groups and people experiencing homelessness. People's past experience of healthcare influences their willingness to engage in future. To build trust with people who have been told that they have tried "everything the NHS has to offer" with no success, MSK services need to offer something different to what has been offered in the past. The Covid-19 immunisation programme was given as an example of how community leadership and faith groups had been deployed to overcome distrust and allow delivery necessary health services.<sup>113</sup>

**A Primary Care Network in Coventry is conducting a population health management project in partnership with University Hospitals Coventry & Warwickshire and Optum Health Solutions.** Using a data-driven case-finding approach, people with persistent low back pain who are from the areas of high deprivation have been identified.

The group being targeted are individuals living with persistent back pain, who are not working, have comorbidities (including pain co-morbidities, anxiety, depression, obesity, diabetes, cardiovascular disease) and are taking prescribed opiate medications. The impact of living with chronic pain on mental health, socialisation and trust in services was recognised at the outset.

The project is physiotherapist-led. Individuals are offered a combined physical and behavioural treatment programme – Cognitive Functional Therapy – that tackles the biopsychosocial complexity of persistent back pain. The aim is to support people to find alternative ways of managing pain (including physical activity) and to reduce opioid medications.

*"After my very first session in this programme I was optimistic about my future. For the first time I was able to control my pain. This was not something being done to me by somebody else or medications to mask the pain. I now understand that it is not one thing that causes me pain but a combination of things which all relate to each other."*

**Patient quote**

*"The key challenge to date is gaining the trust and confidence of the people invited to take part in this programme... they felt low optimism for their future outlook as healthcare had not been able to help them in the past."*

Christopher Newton, Consultant Physiotherapist at University Hospitals Coventry and Warwickshire NHS Trust



## Recommendations



Leaders and managers of MSK Services should recognise the value VCFSE groups working with disadvantaged and marginalised groups can bring.



Leaders and managers of MSK services should, as part of an engagement strategy, identify communities that are not accessing the service where trust may be an issue and find innovative ways to engage them – such as volunteering with local organisations to engage with vulnerable individuals, build trust and understand more about how to meet their needs.



Leaders and managers of MSK Services should ensure that any change in service design or quality improvement work is co-produced with people with lived experience, with their involvement embedded in every level of decision-making and including people with lived experience living in deprived areas.



Leaders and managers of MSK services and health professionals should understand that trust may need to be rebuilt between services and people with MSK conditions living in deprived areas and discuss ways in which to achieve this



# Tackling inequalities using data

Our Inquiry found that to address health inequalities effectively, MSK services need robust and accessible epidemiological, clinical and outcomes data. Once health inequalities are identified, strategies to mitigate them can be chosen and the learning can be used to inform practice and service design.

Without access to data, MSK services can provide the best care they can to individuals but will not be able to assess their impact on underlying inequalities.

In response to our call for evidence, some submissions referred to some difficulty around collecting, accessing and easily integrating data sources.<sup>28, 72</sup> Having deprivation data (from the IMD) automatically pulled through into a 'derived field' would help some services for example. One MSK service told the inquiry that it was difficult to identify individuals with MSK conditions affected by health inequalities and deprivation as a distinct group because they had not been commissioned to collect sufficient data on social characteristics.<sup>14</sup> Their work on inequalities had involved laboriously collating data (on self-referrals in areas of deprivation for example) which proved labour intensive due to disparities between publications. Two paediatric rheumatology professionals described not having access to data relating outcomes and deprivation for the large regions they cover.

*"Using data to identify where the biggest challenges and the greatest opportunities should be a starting point for work to improve MSK health and equalities."*

**Clinical Lead, Community MSK service in the North East of England**

*"To be honest I don't know when I am treating people in the 10% more deprived areas of Didcot! I will check it out and be more aware now... I am now more aware of MSK health inequalities, which must be a good thing."*

**First contact physiotherapist**

*"We have an understanding of the areas within our region that suffer more from deprivation, but unfortunately we do not have data to substantiate this."*

**Paediatric rheumatology clinical nurse specialist<sup>77</sup>**

*"I have not been able to collect data directly related to this (deprivation) and MSK disease outcomes, but I think this would be very useful."*

**Consultant paediatric rheumatologist<sup>115</sup>**

The data that services should collect will vary across services and different populations. However, it was clear from the evidence that services should devote time to consider what data they could collect to determine:

- Whether those accessing the service are representative of the service's catchment population in terms of area deprivation levels.
- Which specific groups (by deprivation level, ethnicity and sex, for example) may be experiencing barriers to accessing the service.
- Whether meaningful outcomes for service users are equal across all individuals accessing the service.
- Whether there is a negative correlation between outcomes and deprivation level.
- Whether outcomes are maintained in the longer term and if they correlate with deprivation levels.

### **The MIDAS project in North Staffordshire and Stoke on Trent**

is a local data integration project. They designed and implemented methods of collection, linkage, and analysis of patient-reported information on social characteristics in primary care and the general population. This is soon to be extended to community MSK services as part of a pilot MSK national audit conducted by Keele University and funded by the British Society for Rheumatology. Their data collection instruments and methods are freely available to other researchers and health services via the Open Science Framework – [Multi-level Integrated Data for musculoskeletal health intelligence and ActionS \(MIDAS\)](#).

## **Data driven interventions**

While acknowledging particular difficulties in some areas, the evidence from several of the experts who gave oral evidence to this Inquiry was clear. Data is available and MSK services need to start using it – bringing it in, analysing it and triangulating it with their own. MSK services should not wait for 'perfect data' or allow imperfect data (and data integration) to stop them from taking the first steps to start addressing health inequalities.

*"It is about committing to start somewhere in terms of interventions, rather than allowing the quest for more data to create inertia."*

**Dr. Bola Owolabi, GP & Director of the National Healthcare Inequalities Improvement Programme, NHS England**

In her oral evidence, Dr. Owolabi pointed to how services needed to think about data differently. Firstly, health equity should be adopted explicitly as a guiding principle of MSK services. Secondly, while historically data has primarily been used for evaluation and assurance, services need to pivot their thinking towards using data to drive specific interventions with a view to service improvement that is focused on delivering better outcomes for all.

*"What we want to get to, is equity of outcomes... but done in a heterogeneous way, not a one-size-fits-all model."*

**Andrew Bennett, Consultant Physiotherapist and NHS England National Clinical Director for MSK**

*"We must avoid at all costs paralysis by analysis. We can always say we need more data. I would suggest that we have a lot of data already."*

**Dr. Bola Owolabi, GP & Director of the National Healthcare Inequalities Improvement Programme, NHS England**

A number of contributors to the Inquiry drew attention to the Core20Plus5 approach in England as a best practice example.<sup>72, 112, 113, 116, 117</sup> This approach for reducing health inequality targets the most deprived 20% of the population (based on the Indices of Multiple Deprivation), 'PLUS' other population groups identified at a local level such as people experiencing homelessness. The website contains both online training modules and case studies from which MSK services can draw inspiration and learning to start their own health inequality projects. See [Core20PLUS5](#).

The Inquiry's attention was also drawn to NHS England's Statement on Information on Health Inequalities which, though it does not include any MSK indicators, refers to the capture and recording of high-quality health inequalities data across all NHS commissioned community health services.<sup>118</sup> This would enable the sort of data driven interventions in the case studies below.



The Inquiry heard how services need to analyse data (including deprivation, ethnicity and patient reported outcome measures) related to the population they serve to gain understanding around differences in access, outcomes and experiences. The Inquiry heard how services had looked at their patient demographic and could identify groups that were not using the service before devising strategies to provide them with a service that was more accessible to them (See [case study on page 67](#)).<sup>102, 119</sup>

**A Community MSK service in the North West of England** wants to understand which groups are not accessing the service and why. They are comparing sociodemographic and health-related characteristics of people attending the outpatient MSK service with those in the local population with an MSK condition. They are using CIPHA, a population health management platform, and compared this with data from the service. They aim to identify any subsets of people not using their services (predominantly physiotherapy). They intend to follow this up with a qualitative study to understand why, before they make an action plan to improve access.

*"We wish to focus on the people who do not appear to be equitably accessing services."*

**Community MSK service in the North West of England, using the CIPHA population health platform**

**A community MSK service in the South East of England** described how they only collected demographical data on age, gender and postcode. Therefore, in order to investigate possible health inequalities, they had to look at a number of different publications including the IMD – this was labour intensive. Synthesising data from different sources made the task challenging.

## Accessing support through collaboration

MSK services should consult those public sector agencies and institutions who hold information and resources on population health. As well as information, they can often share their learning and, in some cases, actively collaborate with services in a joint focus on tackling the health inequality experienced by people with MSK conditions living in deprivation.

## Public health services

Population health is the remit of multiple partners – including Public Health. Public health teams within the respective responsible bodies in each nation hold some intelligence which MSK services may be able to access to identify and understand health inequalities in their area.

- In England, public health teams sit within local authorities and are obligated to provide [advice to ICSs](#) free of charge.<sup>120</sup> They hold evidence-based information about the health needs at neighbourhood or locality level.
- In Scotland, [Public Health Scotland](#), which has specific capacity dedicated to MSK health, is well placed to advise on sources of local and national information. Furthermore, local public health staff and the health intelligence team working in Health Boards can provide advice and expertise on local data and health needs.
- In Wales, MSK services should consult their locally based [Public Health Wales](#) team or the nationally based Health Intelligence Division at Public Health Wales.
- In Northern Ireland, the [Public Health Agency](#) can provide advice and expertise on sources of local information on local health needs.

## Local Health Systems

Local Health systems are responsible for improving population health and tackling health inequalities.<sup>118, 121, 122</sup> They employ intelligence teams and data analysts with the awareness, knowledge and skills to support MSK services wanting to make improvements in this area. Several local health systems are integrating data from multiple sources as the basis for proactive population health management.

## Academic Partners

The Inquiry heard how several MSK services are working in partnership with academic institutions under the local health system. These academic institutions have produced population health platforms that provide useful data, including social characteristics, to inform service provision – such as [CIPHA](#) in Liverpool, [MIDAS](#) in Staffordshire and the [SAIL databank](#) in Wales. In these areas service providers can access the data they need to identify health inequalities in their area, in order to address and monitor their impact on these.

**An 18-month project in Coventry in the West Midlands** began by enlisting an external agency to create a snapshot dataset, linking GP, community and secondary care data for all patients in one Primary Care Network. This could be filtered by patient demographics and diagnostic codes. It allowed them to case-find individuals with chronic back pain living in areas of deprivation, with co-morbidities, who were prescribed opioid medications.

During a subsequent project they will be using a clinical priority tool developed by the University Hospitals of Coventry and Warwickshire to look at cross-sectional data of the population referred to the physiotherapy service. It will enable the service to identify people on the waiting list by age, gender, ethnicity, multimorbidity and levels of deprivation, with the aim of prioritising people based on their risk factors rather than their MSK complaint alone, allowing care to be better targeted.

## Monitoring inequalities

Several submissions emphasised the importance of monitoring inequalities once identified and mitigating them by actioning the recommendations of Equality Impact Assessments and feedback focus groups.<sup>123</sup> Evidence was heard about monitoring of differences related to deprived populations using indicators such as waiting times, patient reported experience and outcome measures and Did Not Attend (DNA).<sup>124</sup> Services also described how they monitor the extent to which service users reflect the local population with a particular focus on areas of deprivation.<sup>101, 102, 114</sup>

**A community MSK service in the North East of England** described how they changed their KPIs from numbers-driven to quality focused and included the *explicit* aim of reducing healthcare inequality. The KPIs were co-produced following 'listening' events that are ongoing. Data will be used in future to monitor progress against healthcare inequality indicators. The service now routinely records patients' Indices of Multiple Deprivation scores and ethnicity. They report on a monthly basis to their commissioners regarding how well service users reflect the demographic, including socio-economic domains.<sup>101</sup>

## Monitoring missed appointments ('Did Not Attend' or DNAs)

The Inquiry heard evidence around the monitoring of missed appointments (known as 'Did Not Attends' or DNAs) as a useful barometer of health inequalities. DNAs are a marker of vulnerability and poor health outcomes. People from deprived areas are more likely to miss appointments.<sup>125, 126</sup> This occurs for a number of reasons, including:

- They simply do not have the 'bandwidth' to contemplate an appointment due to the psychosocial pressures of living with an MSK condition in the context of deprivation. While forgetfulness is often cited as the reason for non-attendance, this often masks deeper complexity.<sup>127</sup>
- They find it harder to prioritise regular appointments for their MSK condition, and rely more heavily on Accident and Emergency departments, particularly once the condition becomes acute.<sup>128</sup>
- They cannot give priority to their MSK condition because they have several other long term conditions. People with four or more long term conditions are more than twice as likely to miss appointments as those with none. Rates are highest if one of those conditions is a mental health condition.<sup>129</sup>
- They feel that they cannot take time off work if their work is precarious, temporary or low paid, making it harder to request time off.
- They do not have access to transport such as a private car, cannot arrange travel with someone else, or afford the cost of travel by taxi or public transport.<sup>125</sup>
- They cannot arrange suitable childcare or someone to accompany them to an appointment.<sup>125</sup>

Useful guidance has recently been issued to hospital trusts in England and can be found [here](#). It highlights a number of ways in which MSK services can reduce barriers to access.

**A hospital MSK Therapies service in London** described how they have undertaken an analysis of DNA rates. They have used the Qlik Sense® App which integrates appointment data with health inequality domains including 1) age, 2) sex, 3) ethnicity and 4) deprivation score. Looking at this range of characteristics, they are trying to understand why some groups such as young Black men with MSK conditions fail to attend more than others. They are using this as a basis for changing the support they offer to groups that are finding it challenging to attend.

**The Adolescent and Young Adult Rheumatology department, University College London Hospital** described the predictive tool they have developed which provides a risk score for non-attendance for specific patient populations. They identified that the most significant variable predicting non-attendance in this vulnerable group, was the deprivation score followed by distance, previous history of non-attendance, age group and appointment hour. They have built a model based on deprivation data and the electronic health record.

3. Compared deprivation scores of people living in areas in the lowest 30% and highest 30%– taken from the Index of Multiple Deprivation

## Recommendations



Leaders and managers of MSK services should **start using data to tackle health inequalities**. Start small – in the spirit of quality improvement – to gain learning and traction for further work.

Questions to ask of the service include:

- Which groups do we need to target in our area? (based on deprivation, difficulty accessing care or poor outcomes)
- What healthcare improvement case studies can we learn from?
- Who leads for health inequalities in our area? Make them aware of your planned work, and what you are trying to achieve and enlist their support.



Local health systems and leaders and managers of MSK services should target the 20% most deprived areas in a population as a reasonable proxy for targeting communities with the greatest need



Local health systems should make local data on health inequality and deprivation available to all MSK services to support work to address health inequalities.



Government departments responsible for health and social care data in each nation must work to ensure the availability of data across services – including joined-up and disaggregated data for MSK services to access easily and act upon.



Leaders and managers of MSK services should monitor:

- Patient reported experience
- Outcomes measures
- DNA rates
- Attendance in relation to expected prevalence
- Waiting times

In relation to deprivation. Services should develop an action plan to understand the reasons behind these factors and remove any barriers faced by these patients.

## Geographical distribution of MSK services

The Inquiry heard evidence from representative organisations and MSK services about the importance of local health systems to analysing the distribution and location of MSK services in relation to areas of deprivation. This is also important for regional planning of surgical hubs, pain services and diagnostic centres.

The distribution of services is particularly pertinent to:

- 1. Rural areas:** to avoid exacerbating healthcare inequalities for people with an MSK condition living in remote and rural areas.<sup>72</sup>

*"I live in a post code area where the average house price is £820,000. This can hide inequalities in rural areas. Families that have lived here all their lives or live in council houses get poorer services because they are made invisible by the wealth of the area. There are no shops, medical facilities or leisure facilities in my village."*

Person with lived experience

- 2. MSK services for children and young people:** the Inquiry heard from a number of paediatric services that were concerned about the distance children had to travel for care due to the specialist nature of services [see [Children and Young People](#)].

- 3. MSK services for people with an MSK condition who require multiple appointments** with several specialties or have more than one long-term condition [see [multimorbidity](#)].

One of the ways in which health inequalities could be reduced is through careful consideration of the location of MSK services and adoption of 'hub and spoke' models of care with MSK rehabilitation hubs located in areas of deprivation.

*"There should be more accessible places for people to go to for treatment as well as them being nearby as some people cannot drive like myself or cannot use public transport."*

Person with lived experience

*"My consultant used to visit the hospital in my town once per week. This has stopped so now I will have to travel over an hour to see them."*

Person with lived experience

## Travel and rural areas

The Inquiry heard about the challenge posed by the need to travel for appointments and how this exacerbates health inequalities. This is particularly relevant in rural areas with poor transport infrastructure. A First Contact Physiotherapist told the Inquiry how in their region, the pain service was 58 miles away from the area where the highest levels of chronic pain were observed.<sup>103</sup>

*"As I live in a rural area, it is hard to get to appointments as I have to use a bus. I am on my own and sometimes not well enough to get to the chemist for my medicines so I have to stretch out my doses. I can see my life is slowly but steadily falling apart – I am struggling with activities of everyday life."*

Person with lived experience

Respondents told the Inquiry that MSK services must consider the financial cost to some patients of attending appointments to avoid exacerbating health inequality.

A poll by YouGov and Versus Arthritis found that while people were generally willing to travel for planned essential surgery, 37% needed assistance travelling, 30% needed financial support, 25% needed accommodation and 19% needed a carer to travel with them.<sup>72</sup>

Costs include fuel, parking or public transport costs, assistance to travel (such as needing a carer) and overnight stays for appointments that require long distance travel. This issue is multiplied for MSK conditions that involve multiple specialties. For example, 93% of respondents to a Rare Autoimmune Rheumatic Disease Alliance survey said they saw multiple clinicians under multiple specialties.<sup>76, 130</sup>

*"Those who live in rural areas, or have caring responsibilities, work commitments, or lack of access to means of travel, for example, can struggle to attend all their appointments. Needing to attend additional clinics or appointments for pain management or physiotherapy for their MSK can then become more challenging for people who face these additional barriers."*<sup>76</sup>

We received evidence of work underway to tackle the challenges faced by rural communities in Scotland and Wales including:

- [RHEUMAPS](#) – This study (due to report in 2024) involves mapping of prevalence and outcomes for people with an MSK condition in Wales and Scotland. This will produce an interactive digital geographical map of rheumatic and musculoskeletal disease (RMD) in rural and urban areas.
- The Versus Arthritis [Pain People Place project](#) – an ongoing programme of engagement focused on the lived experience of chronic MSK pain across Scotland, including remote and rural areas and specific under-served groups such as the Gypsy Traveller community.
- The newly established [National Centre for Remote and Rural Health and Care](#) aims "to reduce health and wellbeing inequalities" through focused work to improve the sustainability and capacity of the primary and community healthcare workforce across remote, rural and island communities of Scotland.

## Recommendations



Local health systems should analyse the distribution and location of MSK health services for people (including diagnostic and pain services) in relation to:

- Clinical need (such as areas where reliance on opioid prescriptions is prevalent).
- Rural areas.
- Areas of high deprivation.

New MSK and pain services should be located according to population need.



On the basis of their analysis, local health systems should consider:

- The adoption of 'hub and spoke' or outreach models of care for people with MSK conditions who:
  - Live in rural and remote areas.
  - Face long journeys by public transport.
  - Live in areas of deprivation.

MSK rehabilitation hubs for people with MSK conditions (including children) should offer a range of services, such as physical therapies, psychological support and occupational therapy. Hubs should offer drop-in services as well as outpatient appointments where appropriate.

- How people can be supported who have to travel beyond their locality for treatment.
- All patients eligible for Patient Transport Services should be made aware and given advice on how to apply.
- How, while mindful of the digital divide, technology can be used to support some patients with their treatment needs reducing the need to travel.



# Children and young people with MSK conditions

234,771 children across England and Scotland<sup>iii</sup> have a long term MSK condition.<sup>1</sup>

Giving every child the best start in life, from early childhood through to late adolescence, is essential to reduce health inequalities across the life course. The same social, economic, environmental and behavioural factors impact the health of children and young people with MSK conditions, as they do adults. For example, inactivity among children and young people in deprived areas places them at higher risk of developing MSK conditions and reduces their ability to benefit from pain-reducing activity.<sup>72</sup>

It is clear from the evidence that children and young people living in areas of deprivation should be regarded by MSK services as a particularly vulnerable group with minimal agency.<sup>62</sup> They require proactive identification and specific consideration.<sup>131</sup> MSK services and healthcare professionals also need to recognise the unique and often differing perspective of young people in order to meet their needs. All healthcare professionals must acknowledge the challenge for a young person of learning to manage an MSK condition at this stage of life.

*"If you get it right early, particularly in these communities, then the outlook for them as young adults with employment and their own income is good. But get it wrong and they become lost to follow-up and their healthcare needs both physically and emotionally, increase."*

Dr. Jacqui Clinch, Consultant paediatric rheumatologist<sup>132</sup>

Primary carers of children with an MSK condition are impacted by the same barriers and may struggle to provide their child with ideal support and advocacy. MSK services need to keep in mind the extraordinary pressures experienced by all families of young people with an MSK condition while trying to access care and that this is likely to be greater for people with the least personal, financial and social resources.

*"A parent in a poorly paid manual job is not going to be able to keep that job if they have a child with arthritis who has multiple hospital visits. And there aren't the other adults around, other grandparents around who can take that child instead of the main carer."*

Dr. Jacqui Clinch, Consultant paediatric rheumatologist<sup>132</sup>

## Difficulties accessing care

Much of the evidence received by the Inquiry concerned the chronic lack of access to developmentally appropriate care including commissioned rheumatology services, paediatric occupational therapy services and diagnosis and treatment of some conditions, notably EDS.<sup>115, 133</sup>

The Inquiry also learned that access to appropriate social support (such as peer support) and psychological support is limited.<sup>131</sup> One rheumatologist described the long waiting lists to see a psychologist at a city hospital – the service was also limited to residents of the city, while the MSK service serves a large geographical area.<sup>115</sup>

iii. Taken from data for England and Scotland as the information is not available for Wales and Northern Ireland.



*"I should have been given psychological support as a child, because I had a painful and debilitating chronic illness and would obviously need help dealing with that."*

Person with lived experience

There was also recognition of a large variation in the quality of primary care for children and young people with MSK conditions due to a lack of awareness about children with joint problems and a prevailing misconception that 'it will pass with time'.<sup>132, 134</sup>

## Data and knowing your community

The Inquiry heard how tertiary paediatric MSK services felt they would struggle to monitor inequalities due to their large catchment area.

**A clinician at a paediatric rheumatology service** said that assessing underlying inequalities would be difficult due to the vast area they serve. This service covers five counties across two regions in England.

In her oral evidence, consultant rheumatologist Dr. Jacqui Clinch explained to the Inquiry about how work to improve data capture is underway (through a pilot programme focused on Juvenile Idiopathic Arthritis and through Core20PLUS5 in England). However, she urged MSK services not to wait for ideal data capture and to be proactive and take steps to address health inequalities now.

*"I'd like to meet other people of a similar age that you can share struggles and problems with. As a young person you are supposed to be active and quite mobile, but I found myself taking in notes for P.E because I couldn't do it. When your younger, your friends don't quite understand..."*

Young person with lived experience

## Recommendations



- Leaders and managers of Paediatric MSK services must not wait for perfect data to become available and act now to reduce health inequalities by:
- Finding out who is coming to your service – building a picture.
  - Identifying gaps and targeting attention on these.
  - Collecting feedback from your patients about what works for them.
  - Looking at data that is available (such as [PHE Fingertips](#) dashboard in England) to consider where under-served communities of children may be.
  - Making connections with voluntary and community groups in your region supporting young people – through peer support for example.
  - Starting to collect feedback from children and young people and their carers – with special focus on those vulnerable to health inequality, to establish what works for them.



## Trust, engagement and co-production with children and young people

In their oral evidence to the Inquiry, Dr. Jacqui Clinch and Ann Hagell (psychologist and research lead at the Association for Young People's Health) emphasised the importance of trust for children from areas of deprivation.<sup>132, 134</sup> They described how MSK services needed to reach out to young people to try to understand what they need to access a service (learning from community and voluntary sector organisations). They also recommended that young people are given a mechanism through which to provide simple feedback and a voice in decision-making.

*"The issue of trust is critical – the experience of healthcare as a child sets the tone for the future interactions of that young person with healthcare."<sup>135</sup>*



### Resources

Recently updated [You're Welcome](#) guidance was recommended for MSK services on improving their relationship with children and young people.

[Pathways to Health](#) in Southampton brings together academics, civic leaders, health professionals, NGOs and cultural organisations under the umbrella of the ICS to learn from young people (age 11–16) from deprived communities in Southampton. This engagement project aims to understand what matters to young people and to redesign pathways to health for people aged 11–16.

## Attending appointments

The Inquiry heard about ways in which MSK services can unintentionally make it difficult for children and young people from deprived areas to access services. Young people with MSK conditions from areas of deprivation have the same trouble as adults keeping appointments due to issues around their carer's employment, access to transport and cost issues

*"My colleagues and I are noticing a higher rate of Did Not Attends. Never has there been a wider gap between those who have and those who don't, than now."*

Dr. Jacqui Clinch, Consultant paediatric rheumatologist<sup>132</sup>

Furthermore, unlike adults who can get time off work, children and young people are sometimes penalised if they miss school. The Inquiry heard that lack of understanding in schools of MSK conditions in young people and a focus on attendance leads to some children being 'judged' for missing education for multiple appointments for therapies on top of hospital appointments – including physical therapy, occupational therapy and psychological support.

*"She is in the middle of GCSEs and often has to miss school for appointments as she is not offered appointments outside school hours. She often comes out of appointments unhappy saying that she does not feel they listened to her. This is her experience of a healthcare system that she will soon have to navigate by herself. It does not fill her with confidence."*

Parent of a child with an MSK condition

Every school in England has a duty to have a medical conditions policy which guides staff on how to support children with long term conditions in school. Likewise, every individual child with a chronic MSK condition should have an Individual Healthcare Plan (IHP) tailored to their condition, filled out by their school in conjunction with them and with their parents or carers. However, the Inquiry heard that many schools do not have a policy in place and are not even aware that they need one by law. Furthermore, the usual templates of IHPs are not typically suited to children with an MSK condition.



### Resources

Templates tailored to the needs of children with MSK conditions are available from [JIA-at-NRAS](#) and [CCAA Kids with Arthritis](#).

## Recommendations



Leaders and managers of all MSK services for children and young people should ensure that the service offers:

- Flexible appointments outside of school hours (evening and weekends); and/or
- Drop-in clinics
- 'One-stop-shop' clinics or grouped appointments – combining appointments of different specialties and therapies to prevent children and young people from taking excessive time out of education.



Every child with a chronic MSK condition should have an IHP tailored to their needs – drawn up by the school in conjunction with the child and their parents or carer.



All schools must have a medical conditions policy in place.

## Home medicine deliveries

An issue that arose in relation to children but is equally applicable for adults with an MSK condition was the problems experienced around the delivery of medications to people at home by Homecare Medicine Delivery Services. While this is designed to support people to manage their health at home, investigation by both the national press and the British Society for Rheumatology has found that the service is unreliable in England and Scotland and often requires hours spent on the phone chasing missed deliveries.<sup>136, 137</sup> In fact, people have been left without medication due to delivery issues leading to interruptions in care and sometimes a flare in their condition. The Inquiry heard concerns about how this issue would disproportionately impact people living in deprived areas who typically have less time (due to working long hours), health literacy and agency to chase up failed or incomplete deliveries.

## Location of MSK services

A number of submissions to the Inquiry described long journeys for children and young people with MSK conditions to a tertiary centre for appointments. This is more difficult for people with no access to a car and reliant on public transport infrastructure. For example, a rheumatologist told the Inquiry how children and young people from Cornwall have to travel up to 3 ½ hours to reach a tertiary unit in Bristol, while another described child patients who had to make an 80-mile trip to their tertiary centre.

*"I have looked after families where parents have lost their jobs due to time looking after their child in the tertiary centre for their auto-immune disease. There are families known to my clinic who don't drive and have to take their children with polyarthritis to the tertiary centres by public transport. This has been very distressing for some of my patients."*

Paediatric consultant rheumatologist, North East England

Pushing paediatric therapies out of hospitals and into local hubs, with a particular focus on placing hubs in areas of social deprivation, was regarded as a solution. These hubs would provide occupational therapy, physical therapy and psychotherapy, preferably with a drop-in facility. They would reduce the amount of time children spend out of education and relieve pressure on the most deprived young people and their families.

*"Rehabilitation hubs in these areas would be game changing for the families."*

Consultant rheumatologist

### Recommendations



Local health systems should analyse the distribution of MSK services for children and young people in relation to areas of deprivation and locate paediatric MSK rehabilitation hubs in areas of deprivation to aid access to care.



Paediatric therapies such as occupational therapy, physical therapy and psychotherapy should be provided through local rehabilitation hubs rather than in tertiary centres to reduce the amount of time children spend out of education.

## Transition

Transition from child to adult MSK services was highlighted as an area of weakness by one paediatric rheumatologist who runs a six-monthly transition clinic on goodwill only; it is not included in her job plan.<sup>115</sup> The Inquiry heard oral evidence about young people falling between the cracks at this point and missing out on 12-18 months of care in the absence of a strong advocate (typically a parent). Furthermore, Versus Arthritis highlighted research that found that young people with Juvenile Idiopathic Arthritis who transitioned to adult care were more likely to remain under specialist care if they were from a less deprived area.<sup>72</sup>

## Health literacy and supported self-management

The inability of family members to act as advocates and care navigators, due to their own lack of agency and health literacy, creates additional disadvantage for children and young people living in areas of deprivation. A child or young person will need support to manage their own condition. This may be in the form of a health coach, advocate and/or dedicated youth worker to help the child or young person and their parent/carer to navigate the health system, be heard in decisions about their care and access the support they need to make positive choices. A new pathway may be required that allows clinicians to ‘flag up’ young people who are particularly vulnerable and in need of this support.

As well as provision of health coaches or advocacy, the Inquiry heard how a health coaching approach must be at the heart of all clinical consultations with children and young people to achieve the best outcomes. This may have training implications for health professionals and services. The inquiry heard how difficult it was for clinicians to provide the degree of support patients needed in the absence of a supported self-management or health coach pathway for young people.

One clinician described how she spent two and a half hours trying to get through to her eight-year-old patient’s Housing Association after his single parent family of six was evicted and placed into temporary hostel accommodation. He has mobility issues and a visual impairment and is living two bus rides away from the hospital providing his care.

[Powering up](#) – This innovative project seeks to produce solutions to health inequality with young people, using improvement and coaching science. It aims to empower young people to take charge of their own health and to equip clinicians to coach young people to navigate health problems under social constraint.

See also [Supported self-management](#).

### Recommendations



Leaders and managers of MSK services should ensure that children and young people from deprived areas are prioritised for supported self-management including health coaching.



Leaders and managers of MSK services should invest in personalised care skills training for staff to support provision of quality clinical encounters – including personalised care skills and health coaching – with children and young people from areas of deprivation. See [‘The Conversation’](#)).



Leaders and managers of paediatric MSK services should ensure provision of advocacy or health navigator support for children with MSK conditions who do not have effective family support with the resources to drive their care.



Leaders and managers of MSK services should build relationships with voluntary and community organisations to provide support (such as peer support) for children and young people with MSK conditions identified by health professionals as needing additional support.

# Self-managing an MSK condition

Individuals with MSK conditions spend relatively little time interacting with health and care services compared to the amount of time they spend managing their condition themselves. Many of the most impactful changes that can help with their symptoms are ones those that people can make themselves. However, people's ability to manage their symptoms can change over time – they need more support at diagnosis, or at times of transition, for example. Their need for support is also dependent on other factors such as severity of symptoms, multimorbidity, health literacy, family circumstances and social capital.

The Inquiry received a lot of evidence from individuals with MSK conditions and representative organisations describing the difficulties people experience trying to navigate healthcare services. To manage your condition and access the right care you need to be highly 'activated'<sup>iv</sup> – in other words, motivated, knowledgeable and persistent. In the case of the lesser-understood conditions (such as lupus or EDS), this included people educating their own clinicians.<sup>76, 133</sup> The most activated patients use health services less and miss fewer appointments.<sup>138</sup> Increasing activation is a key goal for MSK services.

*"I have had to be demanding to find out anything which is very demoralising and emotionally draining."*

Person with lived experience

When self-management is mentioned in healthcare communications it often means handing responsibility to the patient – and implies an absence or withdrawal of support.

*"When a clinician says something to me about self-management, that's code for 'You're on your own'."*

Person with lived experience

Almost all people with an MSK condition need support at some point to self-manage. People living in deprivation need that support to be intensive, tailored and targeted to overcome the barriers they face which include:

- A lack of psychosocial resources (including higher stress, less agency, low health literacy) to manage alone or access the right support at the right time.<sup>139</sup>
- Higher likelihood of having more than one long term condition.
- Less time and opportunity to attend healthcare appointments, due to for example, working longer hours or having an insecure job.
- Financial barriers to physical activities or paying transport costs for appointments.

*"We are encouraged to stay active to stay well. Swimming is an ideal exercise, but it comes at a cost (access to facilities and transport to get there)."*

Person with lived experience

iv. Patient activation describes the knowledge, skills and confidence a person has to have to manage their own health. Higher patient activation is associated with better self-management, better health outcomes and lower healthcare costs.<sup>168</sup>

# Supported self-management

## What is supported self-management?

Supported self-management is what the health and social care system can put in place to help people's confidence, ability and capability to manage their MSK condition.

MSK services need to make a clear distinction between:

- Supporting all patients through information and advice; and
- The provision of supported self-management for people with MSK conditions.

Providing information alone is a one-size-fits-all approach which can widen inequalities. Supported self-management involves work that supports more complex behaviour change which cannot be instigated by information and knowledge alone. Supported self-management is a nuanced approach that aims to support a person's capability, opportunity and motivation to self-manage their condition.

*"Supported self-management is not about giving people information and advice on its own in a paternalistic, didactic way...It's about that partnership [and] goal-oriented conversation, the goal being what that person [with the MSK condition] wants to achieve – what matters to them – and the healthcare professional supporting them to achieve that."*<sup>140</sup>

Chloe Stewart, Health Psychologist

It is the responsibility of all providers for people with MSK conditions to identify people or groups who are at risk of low health literacy and patient activation and who may struggle to manage their condition. To identify vulnerable patients, services may use personalised conversation during the clinical encounter or data evidence such as over- or under-use of services for example. Particular focus should be given to people living in deprived areas who are more likely to experience these barriers.

Supported self-management should be one part of a proactive outreach strategy. MSK services need to take steps to identify, and offer support to, people living in deprivation with an MSK condition who are struggling or at risk of struggling to manage their condition.<sup>109</sup>

## Supported self-management strategies

**1. Health coaching** – Health coaches help individuals to think through long term goals and support them to develop the skills and confidence to self-manage their MSK condition. Care coordinators can also perform many of the same functions. They can help an individual with an MSK condition to navigate the health and care system and to coordinate their care where they have other long term conditions.

The Inquiry was told about the importance of recruiting health coaches or coordinators from the social group or community in which they will be working. Patients or service users benefit from seeing themselves reflected in the service, and it allows unhelpful peer-held or culturally held beliefs to be overcome more effectively.<sup>58</sup>

One model of supported self-management described in evidence to this Inquiry was the asset-based community development model which would address MSK conditions as part of a holistic and comprehensive health and social care support service.<sup>99,141</sup>

[Community Health and Wellbeing Workers \(CHWW\) – National Association of Primary Care \(napc.co.uk\)](https://www.napc.co.uk). In this pilot between the local council, Imperial College London and Pimlico Health GP practice, Community Health and Wellbeing Workers (CHWWs) who live in the community are allocated 150 households that have been identified as requiring additional support to manage their health. This model is based on a model common in countries such as Brazil where a community health worker is responsible for 150 households. Workers visit households monthly and talk to residents about their health and social care needs. They provide support and direct them to local services, provide healthy lifestyle advice, vaccination and screening reminders and support with the management of long term conditions. Over time the worker builds a trusting relationship with the people they are working with. Interim outcomes show that they have identified serious mental illness, domestic violence and improved cervical screening uptake in Muslim women.

**2. Social Prescribing link workers.** Social prescribing link workers can help individuals to face the wider social and environmental challenges they are facing. They can refer people to community-based support, including activities and services that support their health and wellbeing.<sup>142</sup> Some Social Prescribing link workers provide support with issues such as housing, debt and loneliness which disproportionately affect people living in deprivation. Several submissions to the Inquiry described the need for a prominent role for social prescribing to increase confidence in people living with an MSK condition and pain.<sup>72</sup>

**A Healthwatch based in the South of England** is working to see the adoption of a social prescribing role for people with an MSK condition and chronic pain, using the Additional Roles Reimbursement Scheme (ARRS).<sup>143</sup>

**3. Peer support.** Some of the most effective supported self-management approaches involve an element of ongoing peer support.<sup>144</sup> Many Voluntary, Community, Faith and Social Enterprise (VCFSE) sector organisations provide peer support opportunities. MSK services need to feed into and refer people to appropriate support of this nature. For example, Versus Arthritis runs a remote peer mentorship programme for people with hip and knee osteoarthritis who are socio-economically disadvantaged, to address how their MSK affects them more severely due to poorer general health and their reduced uptake of health services.

*"Social help groups linked to GP surgeries would be great."*

Person with lived experience

Peer support is particularly pertinent for young people with an MSK condition who are more likely to feel isolation.

*"I'd like to meet other people of a similar age that you can share struggles and problems with... When your younger, your friends don't quite understand and you want to do things they can do – but you physically can't. I didn't even know arthritis in young people could even happen."*

Young person with lived experience



**4. Structured self-management education.** The most effective forms of self-management education are tailored to the individual, involve a peer support element and are facilitated – rather than delivered in a didactic style.

**A Healthwatch based in the South of England** told the Inquiry how they were campaigning for the development and implementation of a community specific Pain Management Programme for people living with back pain, co-delivered in equal partnership by a healthcare professional and someone living with chronic pain or by support groups.<sup>143</sup>



**Resources:**

[Supported Self-Management in Musculoskeletal Services](#) – a toolkit for implementing supported self-management in MSK primary and community services (available on the ARMA resources webpage).

**Availability of supported self-management**

The Inquiry heard how in some areas of England health and well-being coaches in primary care offer tailored one-to-one support to people with MSK conditions, run self-management courses and help to support peer support groups.<sup>145</sup> However, access to this type of support is variable across the country. The Inquiry learned how the dominance of medical culture in decision-making at a high level, such as within local health systems, means that this type of support is given low priority for investment by health services occupied with managing ill-health rather than longer-term ambitions of prevention, population health and health inequalities.<sup>146, 147</sup>

**Recommendations**



Local health systems must agree a shared strategy for provision of a range of supported self-management services (in line with the toolkit for MSK supported self-management) targeted at deprived areas.



Local health systems and leaders and managers of MSK services should engage with the voluntary sector to develop peer support opportunities for people with MSK conditions living in areas of deprivation.



Leaders and managers of MSK services should ensure that the service provides supported self-management to individuals with MSK conditions living in areas of deprivation.

**‘The conversation’**

At the heart of supported self-management is the quality of clinical encounter or the conversation between the professional and the patient around the outcomes that are important for them, taking into account their current life circumstances. The Fuller Stocktake (2022) describes the personalised care approach in the context of integrated neighbourhood teams as ‘What matters to me, not what’s the matter with me’.<sup>99</sup> What matters may include a range of things, from an individual’s ability to work to staying independent, interacting with grandchildren or keeping up a social life. The Inquiry received many submissions from people with lived experience who felt they had not been listened to or been allowed to input into their care plan.

*"I would like to feel that someone actually listens to what I'm saying, what pain I have, what treatments I can't take due to having caring responsibilities. I can't afford to be unwell with side effects from strong treatments, no one takes this on board, no one actually opens their ears and listens."*

Person with lived experience

For MSK services, acquiring these skills amongst their staff and maintaining them has training implications. These skills need to be embedded into the consultation using strategies such as 'chunk and check' and 'teach back' to establish the extent to which complex information has been understood.<sup>145, 148</sup> Supplementary to these core skills, the Inquiry heard how some MSK services use the Patient Activation Measure (PAM), the most commonly used and licensed measure to ascertain an individual's knowledge, skills and confidence.<sup>140</sup>



### Resources

- Organisations such as the [Personalised Care Institute](#) provide e-learning on how to identify people's level of health literacy.
- PAM and other tools are available on the Futures NHS platform and at NHS England [here](#).



### Recommendations

	Leaders and managers of MSK services should invest in training staff to have quality clinical encounters with people living in deprived areas that address lower levels of health literacy.
	Leaders and managers of MSK services should institute the use of tools such as Patient Activation Measures to identify those people who require supported self-management.
	All health professionals working with people with MSK living in areas of deprivation should employ the strategies set out in the supported self-management toolkit. <sup>148</sup>
	Local health systems should use the Self-Management toolkit to identify their system improvement priorities and actions.

### Multimorbidity

One of the challenges for services and healthcare professionals supporting people with an MSK condition living in deprivation is the likelihood that they are contending with more than one health condition (multimorbidity), including poor mental health.<sup>149</sup>

Multimorbidity is strongly linked to deprivation.

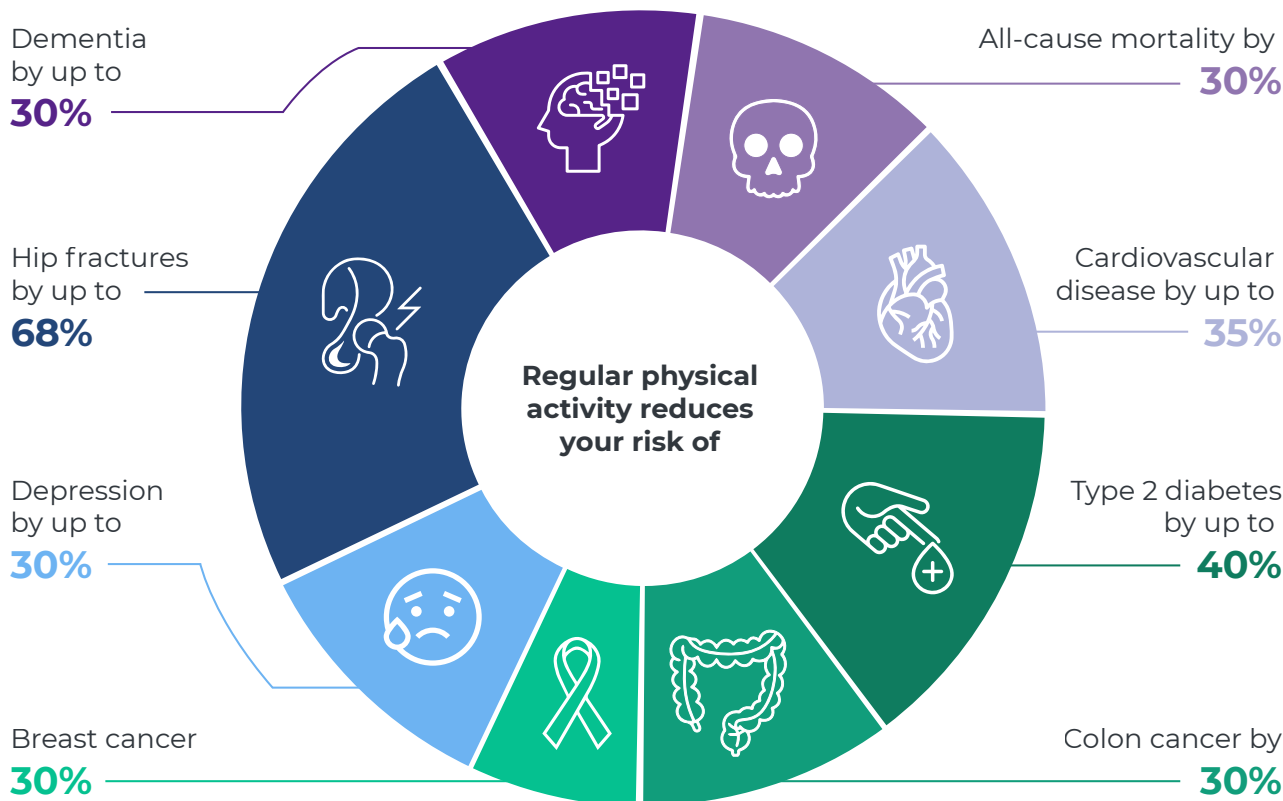
- People in deprived areas are significantly more likely to have two or more health conditions than people in the least deprived areas – a 43% greater risk at age 46.<sup>34, 71</sup>
- People aged 30–49 living in the most deprived 10% of local areas in England have the same average co-morbidity score as those aged 50–59 living in the least deprived local areas.<sup>150</sup>
- People from the most deprived areas of Scotland have multiple conditions 10 to 15 years earlier than people from the least deprived areas.<sup>13</sup>

Multimorbidity can delay diagnoses by masking other underlying conditions.<sup>108</sup> It may also explain to some extent why joint replacement surgeries are carried out less often in deprived communities, as patients with co-morbidities carry increased complexity and risk.<sup>32, 151</sup>

## The impact of MSK conditions on co-morbidities

Multimorbidity is increasing in prevalence. A study by the Health Foundation (2023) found that multimorbidity will increase across all age groups by 2040.<sup>152</sup> MSK is a significant contributor to this increase. An MSK condition is the most common entry point to a multimorbidity trajectory – from chronic pain to osteoarthritis to depression for example. The greatest absolute increases in new diagnoses are for diabetes (1.9 million) chronic pain<sup>v</sup> (1.7 million) and heart failure (1 million).

### What are the health benefits of physical activity?



As the challenge of multimorbidity increases, so must awareness of the fundamental importance of good MSK health as an enabling factor in all initiatives to reduce the overall burden of ill-health in the population. The benefits of physical activity for example in relation to common conditions cannot be realised without good MSK health.<sup>153</sup>

### Adapting health services to multimorbidity

While multimorbidity is increasing in prevalence<sup>153, 155</sup> the health system is still structured around single disease (or organ system) siloes. As a result, services and health professionals can struggle to respond to multimorbidity in a patient-centred way.<sup>63, 156, 157</sup> The Chief Medical Officer's Report 2023 highlighted the extent of this siloed working, with everything from medical research to NICE guidelines being focused on single conditions.<sup>59</sup> Given the significant contribution of MSK to multimorbidity, recommendations such as multidisciplinary working around clusters of commonly co-occurring diseases should factor MSK as an important part of these.

v. Chronic pain was used rather than identifying individual MSK conditions.

## Supporting patients with multiple conditions

People with lived experience told the Inquiry how fundamental their MSK health is – and how poor MSK health often leads to a worsening of other conditions. They emphasised how MSK pain, for example, can tip the balance between being able to go about your day or not, or being able to attend an appointment. One person with lived experience of multimorbidity including an MSK condition said that their experience of health services had involved *"a failure to even recognise the impact of multiple long term conditions on the patient."*

Having a co-morbid condition makes self-management of an MSK condition more challenging. It will act as an additional barrier for people living in areas of deprivation who already face many disadvantages.

*"We need to find a better way of conceptualising complexity and managing this within the clinical encounter."*

Physiotherapist and Project lead of Paediatric Orthopaedic Cluster Clinics<sup>146</sup>

In their oral evidence to the Inquiry, Dr. Collins and Jacob Lant talked of the need for healthcare professionals to be mindful of the multiple burdens being placed on individuals with MSK conditions and other long term conditions. These included the burden of treatment – what people are being asked to do by health professionals. They described how people living in deprivation are less well equipped to manage these because they have other more urgent and immediate issues to attend to with the basic necessities of living.

*"People [living in deprivation] haven't got the bandwidth to do anything other than put food on the table and keep the house relatively warm over the winter."*

Dr. Alf Collins, Clinical Director for Personalised Care, NHS England

During the clinical encounter, healthcare professionals need to ask themselves 'Am I adding to the burden for this person?' and to invite the person to tell you what they already have to do for their MSK condition and for their other conditions. This will allow healthcare professionals to avoid adding to the burden unnecessarily and allows for the opportunity to coordinate appointments with other specialties and avoid the situation of an individual having several appointments for different conditions on consecutive days.<sup>149</sup>

Supported self-management, with quality clinical encounters at its heart, is a powerful strategy to address multimorbidity in areas of deprivation.

### Recommendations



Leaders and managers of MSK services should prioritise people with multimorbidity living in areas of deprivation for supported self-management.



Leaders and managers of MSK services and the professional bodies should ensure that all healthcare professionals receive training in health inequality, health behaviour change, health coaching, and multimorbidity management as part of their pre-registration, apprenticeship and workplace training.



In their clinical encounters with people with MSK with other co-morbidities who are living in areas of deprivation – health professionals should consider whether what they require that individual to do is adding to their burden and whether they can make adjustments to accommodate their needs.

## Addressing modifiable risk factors

Some of the most impactful changes that can help with the symptoms of MSK conditions are changes which the person with the MSK condition can make for themselves – such as a healthier diet, more physical activity, and less alcohol consumption and smoking. Behaviour change is challenging for anyone with an MSK condition, especially for someone in pain. It is more difficult for people who lack 1) the psychosocial resources or ‘bandwidth’ to contemplate it and 2) the money to pay for healthier food options or access to exercise facilities such as a pool.<sup>154</sup>

The NHS has a role to play in promoting physical activity and providing access to advice on exercising safely (such as people with arthritis, osteoporosis or those at risk of falls).<sup>155–157</sup>



### Resources

There are resources available to support professionals around how to discuss physical exercise with patients such as [Moving Medicine](#).

There are also a range of programmes such as [ESCAPE Pain](#), to support people with joint pain.

Nearly half of low-income households are experiencing food insecurity – constrained access to food and the right nutrition impacts people's ability to manage long term conditions, prevent others (such as sarcopenia and obesity) and can lead to unhelpful coping strategies.<sup>158</sup> For those living with food insecurity, following healthy diet advice will be challenging. Some health professionals are uncertain and anxious about raising the issue of food insecurity with individuals who did not voluntarily disclose problems for fear of causing offence. Whilst healthcare professionals cannot address the underlying causes of food insecurity, they need to be aware of this as an issue when discussing diet with patients and be aware of local services that can offer support. Health systems may have a role to work locally to address the underlying causes of food insecurity in their population.

Obesity is more prevalent in areas of social deprivation – and is the result of a complex combination of biological, psychological, social and environmental factors. Half of people attending specialist obesity services have experienced childhood adversity.<sup>159</sup> The evidence received points therefore to the need for a health coaching approach by MSK services that is sensitive to the complexity of all the pressures on people with an MSK condition living in a deprived area. Cultural considerations will need to be taken into account when discussing an appropriate diet. With support, change can achieve better health outcomes.

Some MSK services told the Inquiry about ways in which they were tackling healthcare inequalities by addressing obesity among people with MSK conditions in areas of deprivation.

**A community MSK service in the North East of England** had observed the increased risk of surgical delay for people with poorer health in disadvantaged communities due to modifiable factors such as smoking, obesity, alcohol and inactivity. They have implemented a programme to optimise health in the pre-operative period with a view to achieving better outcomes.<sup>101</sup>

The Inquiry received conflicting evidence around supporting individuals with obesity. One submission described how body weight was not being addressed for fear of offence, and because of a lack of services to refer people to. Practitioners reported the tendency to respond to loss of mobility due to obesity with equipment such as mobility scooters and sleep apnoea equipment, rather than helping the patient to lose weight and move more.

A number of submissions described the converse issue of weight stigma and the tendency to want to blame individuals rather than focusing on wider determinants of health.<sup>160, 161, 162, 163</sup> The Inquiry heard about the variation in referral criteria for joint replacement surgery. Some commissioning policies restrict access to individuals who smoke or those with obesity; risk factors that are significantly more prevalent in more deprived populations.<sup>58, 164</sup> Such policies therefore exacerbate health inequalities. In some areas, obesity referral criteria have led to a reduction in access to knee replacement surgery, an increase in private surgeries, and economically deprived patients having no surgery at all.<sup>72</sup> This is despite the evidence that knee replacement surgery is cost-effective for 99.9% of patients (45% of whom are living with obesity) and is contrary to national clinical guidance. One individual told the Inquiry how weight stigma had influenced clinical decision making, leading to them not being considered for surgery.

*"[I have had the] same issues since I was a kid with joints. First it was growing pains, then I was too young for arthritis or other things, now it's because I am fat, the pain and issues have stayed the same throughout my life though! Just the stupid reasons causing them have changed apparently."*

Person with lived experience

The Inquiry heard how weight stigma is, in fact, negatively impacting patient trust in services leading them to avoid health services for fear of the simplistic suggestion that they 'just lose some weight'.<sup>160, 161</sup> This delay leads to their condition being exacerbated and more complex when they do finally ask for help. To increase participation, the focus needs to be weight neutral. It should focus on increasing physical activity and reducing inactivity, healthy diet, less alcohol and smoking cessation.

*"Service providers first and foremost look at my weight instead of my concerns when my condition changes. Weight shaming is not a way to support patients with long term conditions."*

Person with lived experience

## Recommendations



	Leaders and managers of MSK services should address modifiable risk factors with those in most need through a supported self-management and health coaching approach.
	Healthcare professionals should be aware of resources locally to support people living with food insecurity so that they can refer as required.
	Local health systems should be aware of the impact of food insecurity on their local population and work with local partners to mitigate this as well as seeking solutions to the underlying causes.
	Health systems and commissioners must review their referral criteria and practice for surgery to ensure that BMI is not used as a bar to surgery for joint replacement.
	Leaders and managers of MSK services should ensure all staff undertake training in how to address issues related to activity, weight, diet and nutrition.
	Leaders and managers of MSK services serving areas of deprivation should ensure that a dietician is employed as part of a multidisciplinary approach

## Addressing health literacy

Health literacy is defined as the degree to which individuals have the skills and capacities they need to access and understand health information and services to allow them to maintain good health. Nationally, 61% of adults find health information too difficult to understand.<sup>101</sup> People living in the most deprived areas are twice as likely to have low health literacy compared to those in the least deprived areas.<sup>165</sup> Tackling low health literacy of individuals with MSK conditions living in deprivation is one means of tackling health inequality.<sup>72, 108, 143, 166</sup>

Health literacy impacts people's ability to manage their MSK condition, evaluate what works for them and stay on treatment.<sup>72, 108, 167</sup> Levels of health literacy determine the care people with MSK conditions receive and their health outcomes, for example:<sup>168</sup>

- MSK pain is more prevalent among people with low health literacy and is associated with poorer outcomes.<sup>169</sup>
- People with rheumatoid arthritis and good health literacy have significantly lower disease activity and are more likely to be prescribed the more targeted biologic medications than people with low health literacy.<sup>170</sup>
- People with lower health literacy – including less awareness of treatment options – tend to delay requests for hip replacement surgery until their symptoms become severe and non-surgical options are ineffective.<sup>58</sup>
- People with lower health literacy are less likely to attend appointments.
- People with osteoporosis and low health literacy are less likely to adhere to treatment.<sup>167</sup>

**A community MSK service in the North East of England** identified that the proportion of people who had difficulty understanding written information was more than double in the 20% most deprived areas compared to the least deprived 20%. They have therefore decided to implement care plans for service users aimed at a lower reading age.

It is important that health literacy is understood as the problem and responsibility of MSK services rather than the individual. At the heart of addressing health literacy is the quality of the clinical encounter [see '[The conversation](#)'], in which healthcare professionals need to spend time carefully establishing individual patients' health literacy and tailoring information accordingly.<sup>110</sup> Written information provided by services must be suitable for people with low health literacy and in plain English. Aim for a reading age of 9-11.<sup>171</sup> In many areas, services will need to consider language barriers alongside health literacy. A population health management project in Coventry (see [Case study](#) on page 67) found that to support people with persistent pain, taking opiate medications and living in deprived areas it was important to communicate information in multiple languages in a way that was accessible and understandable for service users.

Other actors will also have a role in addressing health literacy including voluntary sector organisations who produce much of the information that people with MSK conditions consume.<sup>110</sup> Pharmacies need to consider health literacy when providing ad hoc advice to individuals – they have the advantage of being based in the community and being familiar to patients.<sup>108</sup>

For individuals living in deprived areas, supported self-management strategies that are tailored, and preferably involve ongoing peer or healthcare professional support, are likely to be the best way to overcome the barriers posed by low health literacy.<sup>144</sup> [See [Supported self-management](#)]



### Resources

Resources to address health literacy can be found here:

- [Patient Information Forum](#)
- [Health Literacy Toolkit](#)

## Recommendations



Leaders and managers of MSK services should conduct an assessment of all communications with service users for their accessibility to people with low levels of health literacy and amend materials accordingly.



Healthcare professionals should be considering health literacy in their clinical encounters and identifying those who struggle with health information for additional support [see ['The conversation'](#)]

## Digital exclusion

Digital tools have the potential to empower people with MSK conditions when employed equitably. However, the Inquiry heard concerns around the NHS moving towards 'digital by default' since the pandemic, during which the 'digital divide' widened.<sup>72, 172</sup> Low household income is the second biggest predictor of digital exclusion after age, and 47% of people who are offline are living in a low-income household.<sup>108, 172</sup>

Due to a combination of digital exclusion and low health literacy, individuals with MSK conditions living in areas of deprivation may need support to access digital resources. Some MSK services described how this had been less of an issue for services users than they had expected.<sup>173, 174</sup> However other services and charities supporting people with an MSK condition described using volunteers to support people to use digital tools, providing hard copy information, and always offering an alternative to digital options.<sup>72, 108, 175</sup>

*"It's not about digital first. It's about make the best use of digital technologies to enable delivery. This will work for some, but not everyone."*

Andrew Bennett, Consultant physiotherapist and NHS England National Clinical Director for MSK

**A Burton Albion Community Trust in the East Midlands received a grant to support older adults with osteoarthritis and joint pain.** They provide hard copy 'Activity packs' with information about osteoarthritis, behaviour change support tools and information about local exercise resources to people who are not comfortable using the Internet or do not have access to it. They also provide exercise materials such as resistance bands and home exercise plans. As well as these materials they offer face-to-face sessions and telephone support to help people to access physical activity opportunities.

To avoid creating barriers for people from more deprived postcodes who may have lower health literacy they developed their information in Plain English. They use community champions to get their information to people from ethnic minorities with MSK conditions who may not typically access local exercise provision. They are also targeting men who have traditionally avoided healthcare but may be more likely to access community exercise provision.



**A social enterprise in the South East** provides a home-based exercise programme for older adults with a range of conditions, including MSK. Nearly 80% of participants reported having nearly no confidence using digital devices before undertaking the programme. Volunteers were trained for home visits with vulnerable older adults and in how to facilitate use of the AI app. They support people to use the digital tools to access an individualised programme of exercise while also providing emotional support.<sup>174</sup>

## Recommendations



Leaders and managers of MSK services should ensure that where digital resources or tools are provided by the service, an alternative means of access must be available for those who cannot easily access digital resources.



Local health systems and leaders and managers of MSK services should provide targeted face-to-face support (which might include partnership with the VCFSE sector) for people with MSK conditions living in deprived areas to ensure that they can access any digital resource intended for their use.

# Policies that widen health inequalities

Despite health inequality being high profile across national health policy, several submissions to this Inquiry described concern around practices being rolled out that might exacerbate healthcare inequality. It was felt that some practices are being framed as offering patients' flexibility and convenience to self-manage their MSK condition, while freeing up clinical time and resource. However, without effective evaluation of the impact of these practices on health inequalities, they risk disadvantaging individuals with MSK conditions living in deprived areas.

## Patient Initiated follow-up and self-referral practices

The Inquiry also heard some concern about the widespread adoption of the model of self-referrals or Patient Initiated Follow Up (PIFU) for people with an MSK condition. Ideally this would ease capacity in the system to free up time for clinicians to spend with those in greatest need. However, there is evidence that it may in fact increase health inequalities.

Concern was expressed by the Nuffield Trust about how Patient Initiated Follow-Up (PIFU) was being promoted as a means of offering flexibility to patients, allowing them to manage their own condition, while also reducing demand.<sup>123</sup> They described how it was piloted primarily in the South West and North West of England. They felt that these areas were not representative of more urban and ethnically diverse areas of the UK which may experience greater health inequalities. Therefore, the impact on health inequalities of this practice may not have been fully understood before being rolled out across the country. PIFU is being more rapidly adopted by specialties responsible for MSK (Physiotherapy and Trauma & Orthopaedics) than other clinical areas. Some people living in deprivation are less likely to self-refer.<sup>114, 123</sup>





## Self-referral rates to a community MSK service in the South East

This MSK service only collected age, gender and postcode demographical data. Therefore, using census data, Indices of Deprivation and the Joint Strategic Needs & Assets Assessment scorecard, they researched deprivation levels by neighbourhood, levels of employment and education, and numbers of people with disabilities. They cross-referenced this with their own data and found that there were **lower levels of self-referral in deprived neighbourhoods**. This process was labour intensive and complicated by disparities between publications. Changing data collection by services was not feasible at this time as they were at the end of their contract.

Instead, they chose to focus efforts on improving communication.

- They partnered with patient champions to co-produce all message and letter templates. Patients can now contact the service via email, phone, post or now, links provided by Accurx – an NHS approved digital supplier. Whatever route a patient chooses to use *"they get the same treatment and are managed by the referral management team with no patient left behind."*
- Non-attendance was more prevalent in areas of deprivation. Accurx simplified and improved digital communications by allowing patients to, for example, cancel appointments through a link in a text – this has had a marked impact on DNA rates across all community clinics.
- Using Accurx, they have improved patient feedback mechanisms and are receiving more feedback than ever before since patients have been sent a simple questionnaire via a link after every appointment.
- They overhauled their website – working with ReciteMe to make their website more accessible, including facilities to change languages, font size and background colour. All content has been re-worded to be easily digestible, with more links to appropriate resources. On key self-management topics users can choose between written, auditory and visual communication. It is optimised for mobile, tablet or PC. Average waiting times are now included, following patient feedback. The blog/news is updated monthly to keep patients engaged. Patients are signposted to holistic resources around general health (including mental health) – not just MSK.
- They have re-worked or published hard-copy materials for patients with better signposting and advice.
- They now have regular community engagement events for patients to meet the team and find out how to access services.
- They are working in partnership with GP practices to understand the localities, discuss inequalities and improve self-referral rates, which have been steadily increasing.

# Conclusion

Individual healthcare professionals, MSK service leaders, schools, Public Health leaders and local health systems have the opportunity to address and mitigate healthcare inequalities for people with MSK conditions living in deprivation.

From individual patient outcomes to broader systemic change, everyone has a role in breaking the cycle of health inequalities. Furthermore, due to the fundamental importance of MSK health in relation to other conditions, addressing the MSK ill health of people living in deprivation is a mechanism through which to address the burden of all disease in that population.

Healthcare professionals and service leaders can foster MSK services, co-designed with and delivered in the community. They can deliver quality personalised care that respects the full diversity of social and economic backgrounds of their patients and acknowledges the inequitable impact of the wider determinants of health on people living in deprivation. With energy and commitment to the cause of health equity, healthcare professionals, service leaders and local health systems can be catalysts for positive change in their communities and can improve the lives of the people with MSK conditions who are most in need of their support.

*"We are struggling with really pervasive inequality. So it's going to take all of us working tirelessly to turn the tide and start making a difference and narrowing the gap."*

**Dr. Aoife Molloy, Consultant in Infectious Diseases and Acute Medicine & NHS England Senior Clinical Adviser for Healthcare Inequalities Improvement**

# Bibliography

1. [Versus Arthritis. The State of Musculoskeletal Health 2023. Arthritis and other musculoskeletal conditions in numbers. 2023.](#) (accessed 29 Nov 2023).
2. [Office for Health Improvement and Disparities. Musculoskeletal health: applying All Our Health Guidance. 2022.](#) (accessed 28 Mar 2023).
3. [NHS England. Musculoskeletal health.](#) (accessed 5 Sep 2023).
4. [Public Health England. Chronic pain in adults 2017. Health Survey for England. London, 2020.](#) (accessed 1 Nov 2023).
5. Whitehead M. A typology of actions to tackle social inequalities in health. *J Epidemiol Community Health* (1978) 2007; 61: 473–478.
6. [Watt T, Raymond A, Ratchet-Jacquet L. Quantifying health inequalities in England. 2022.](#) (accessed 13 Sep 2023).
7. Marmot M. Health equity in England: the Marmot review 10 years on. London, 2020 doi:10.1136/bmj.m693.
8. [Public Health England. Health Profile for England 2021. 2021.](#) (accessed 19 Aug 2023).
9. [Welsh Government. Welsh Index of Multiple Deprivation.](#) (accessed 5 Aug 2023).
10. [Scottish Government. Scottish Index of Multiple Deprivation 2020. 2020.](#) (accessed 5 Aug 2023).
11. [Department for Communities and Local Government. English Indices of Deprivation 2019.](#) (accessed 2 Aug 2023).
12. Verstappen SMM. The impact of socio-economic status in rheumatoid arthritis. *Rheumatology* 2017; 56: 1051–1052.
13. Barnett K, Mercer SW, Norbury M, Watt G, Wyke S, Guthrie B. Epidemiology of multimorbidity and implications for health care, research, and medical education: A cross-sectional study. *The Lancet* 2012; 380: 37–43.
14. Hood CM, Gennuso KP, Swain GR, Catlin BB. County Health Rankings: Relationships between Determinant Factors and Health Outcomes. *Am J Prev Med* 2016; 50: 129–135.
15. [Bibby J. Health care only accounts for 10% of a population's health – The Health Foundation. The Health Foundation. 2017.](#) (accessed 13 Dec 2023).
16. Wohland P, Rees P, Nazroo J, Jagger C. Inequalities in healthy life expectancy between ethnic groups in England and Wales in 2001. *Ethn Health* 2015; 20. doi:10.1080/13557858.2014.921892.
17. Robertson R, Williams E, Buck D, Breckwolt J. Ethnic health inequalities and the NHS: Driving progress in a changing system. 2021.
18. [Raleigh V, The King's Fund. The health of people from ethnic minority groups in England. 2023.](#) (accessed 11 Dec 2023).
19. Watkinson RE, Sutton M, Turner AJ. Ethnic inequalities in health-related quality of life among older adults in England: secondary analysis of a national cross-sectional survey. *Lancet Public Health* 2021; 6: e145–e154.
20. Dubey S, Adebajo AO. Crying out for equity: outcomes of rheumatic diseases confounded by ethnicity. *Clin Rheumatol* 2022; 41: 2621–2624.
21. [L'Hôte E, Castellina M, Volmert A, Conklin L, O'Shea P. A matter of life and death. Explaining the wider determinants of health in the UK. 2022.](#) (accessed 3 Aug 2023).
22. Witkam R, Gwinnutt JM, Selby DA, Cooper R, Humphreys JH, Verstappen SM. Does body mass index mediate the relationship between socioeconomic position and incident osteoarthritis? *Semin Arthritis Rheum* 2022; 56: 152063.
23. Yu D, Jordan KP, Wilkie R, Bailey J, Fitzpatrick J, Ali N et al. Persistent inequalities in consultation incidence and prevalence of low back pain and osteoarthritis in England between 2004 and 2019. *Rheumatol Adv Pract* 2022; 7. doi:10.1093/RAP/RKAC106.
24. Zhao SS, Holmes M V., Zheng J, Sanderson E, Carter AR. The impact of education inequality on rheumatoid arthritis risk is mediated by smoking and body mass index: Mendelian randomization study. *Rheumatology (United Kingdom)* 2022; 61: 2167–2175.
25. Dey M, Busby A, Elwell H, Lempp H, Pratt A, Young A et al. Association between social deprivation and disease activity in rheumatoid arthritis: a systematic literature review. *RMD Open* 2022; 8: e002058.
26. [Bergman BP, Demou E, Lewsey J, Macdonald E. A comparison of routine and case-managed pathways for recovery from musculoskeletal disorders in people in employment.](#)
27. Court-Brown CM, Aitken SA, Duckworth AD, Clement ND, McQueen MM. The relationship between social deprivation and the incidence of adult fractures. *Journal of Bone and Joint Surgery* 2013; 95. doi:10.2106/JBJS.K.00631.
28. Dr. George Peat, Sheffield Hallam University. Written evidence to the Inquiry.
29. MacGregor C, Blane DN, Pravinkumar SJ, Booth G. Chronic pain and health inequalities: Why we need to act. *Scand J Pain* 2022; 23: 225–227.
30. Kulkarni K, Shah R, Mangwani J, Dias J. The impact of deprivation on patients awaiting planned care. *Bone Joint Open* 2022; 3: 777–785.

# Bibliography

31. Kouraki A, Bast T, Ferguson E, Valdes AM. The association of socio-economic and psychological factors with limitations in day-to-day activity over 7 years in newly diagnosed osteoarthritis patients. *Scientific Reports* 2022 12:1 2022; 12: 1–11.
32. Clement ND, Muzammil A, MacDonald D, Howie CR, Biant LC. Socioeconomic status affects the early outcome of total hip replacement. *Journal of Bone and Joint Surgery – Series B* 2011; 93 B: 464–469.
33. [NHS Confederation. Building back inclusively: : radical approaches to tackling the elective backlog. 2021.](#) (accessed 12 Aug 2023).
34. Bisquera A, Turner EB, Ledwaba-Chapman L, Dunbar-Rees R, Hafezparast N, Gulliford M et al. Inequalities in developing multimorbidity over time: A population-based cohort study from an urban, multi-ethnic borough in the United Kingdom. *The Lancet Regional Health – Europe* 2022; 12. doi:10.1016/j.lanep.2021.100247.
35. Kuan V, Denaxas S, Patalay P, Nitsch D, Mathur R, Gonzalez-Izquierdo A et al. Identifying and visualising multimorbidity and comorbidity patterns in patients in the English National Health Service: a population-based study. *Lancet Digit Health* 2023; 5: e16–e27.
36. Kumaradev S, Roux C, Sellam J, Perrot S, Pham T, Dugravot A et al. Socio-demographic determinants in the evolution of pain in inflammatory rheumatic diseases: results from ESPOIR and DESIR cohorts. *Rheumatology* 2022; 61: 1496–1509.
37. Nowakowska M, Zghebi SS, Perisi R, Chen LC, Ashcroft DM, Kontopantelis E. Association of socioeconomic deprivation with opioid prescribing in primary care in England: a spatial analysis. *J Epidemiol Community Health* 2021; 75: 128–136.
38. Torrance N, Mansoor R, Wang H, Gilbert S, Macfarlane GJ, Serpell M et al. Association of opioid prescribing practices with chronic pain and benzodiazepine co-prescription: a primary care data linkage study. *Br J Anaesth* 2018; 120: 1345–1355.
39. Prego-Domínguez J, Khazaeipour Z, Mallah N, Takkouche B. Socioeconomic status and occurrence of chronic pain: a meta-analysis. *Rheumatology* 2021; 60: 1091–1105.
40. Clement ND, Jenkins PJ, MacDonald D, Nie YX, Patton JT, Breusch SJ et al. Socioeconomic status affects the Oxford knee score and Short-Form 12 score following total knee replacement. *Journal of Bone and Joint Surgery – Series B* 2013; 95 B: 52–58.
41. Rajah N, Webb EJD, Hulme C, Kingsbury SR, West R, Martin A. How does arthritis affect employment? Longitudinal evidence on 18,000 British adults with arthritis compared to matched controls. *Soc Sci Med* 2023; 321: 115606.
42. Dr. Adam Martin, Associate Professor (Health Economics) at the Academic Unit of Health Economics, University of Leeds. Written submission to the Inquiry.
43. UK Active. Written submission to the Inquiry.
44. Gwinnutt JM, Norton S, Hyrich KL, Lunt M, Combe B, Rincheval N et al. Influence of Social Support, Financial Status, and Lifestyle on the Disparity Between Inflammation and Disability in Rheumatoid Arthritis. *Arthritis Care Res (Hoboken)* 2023; 75: 1026–1035.
45. [Public Health England. Health Profile for England 2021. 2021.](#) (accessed 8 Jun 2023).
46. Peat G, Jordan KP, Wilkie R, Corp N, Van Der Windt DA, Yu D et al. Do recommended interventions widen or narrow inequalities in musculoskeletal health? An equity-focussed systematic review of differential effectiveness. *J Public Health (Bangkok)* 2022; 44: e376–e387.
47. Kunonga TP, Spiers GF, Richmond C, Beyer FR, Bower P, Hanratty B et al. Health interventions and the unseen impact on equality. *Lancet Healthy Longev* 2023; 4: e8–e9.
48. Tudor Hart J. The Inverse Care Law. *The Lancet* 1971; 297: 405–412.
49. [Fisher R, Allen L, Malhotra A, Alderwick H. Tackling the inverse care law: Analysis of policies to improve general practice in deprived areas since 1990. 2022 doi:10.37829/HF-2022-P09.](#)
50. Jain S, Jadwani V, Spogmy S, Walumbe J. Inequalities and inequities in the types of chronic pain services available in areas of differing deprivation across England. *Scand J Pain* 2023; 23: 168–174.
51. Milner PC, Payne JN, Stanfield RC, Lewis PA, Jennison C, Saul C. Inequalities in accessing hip joint replacement for people in need. *Eur J Public Health* 2004; 14: 58–62.
52. Cookson R, Gutacker N, Garcia-Armesto S, Angulo-Pueyo E, Christiansen T, Bloor K et al. Socioeconomic inequality in hip replacement in four European countries from 2002 to 2009—area-level analysis of hospital data. *Eur J Public Health* 2015; 25: 21–27.
53. [Cook MJ, Lunt M, Ashcroft DM, Board T, O'Neill TO. The impact of frailty and deprivation on the likelihood of receiving primary total hip and knee arthroplasty among people with hip and knee osteoarthritis. J Frailty Aging 2023.](#) (accessed 19 Aug 2023).
54. Lynch M, Peat G, Jordan K, Yu D, Wilkie R. Where does it hurt? Small area estimates and inequality in the prevalence of chronic pain. *Eur J Pain* 2023; 00: 1–10.
55. [The Health Foundation, The Institute of Health Equity. Build back fairer: The COVID-19 Marmot Review. 2020.](#) (accessed 11 Apr 2023).

# Bibliography

56. [Nussbaum C, Massou E, Fisher R, Morciano M, Harmer R, Ford J. Inequalities in the distribution of the general practice workforce in England: a practice-level longitudinal analysis. \*BJGP Open\* 2021; 5. doi:10.3399/BJGPO.2021.0066.](#)
57. Leeds Teaching Hospital NHS Trust/Leeds university. Written submission to the Inquiry.
58. NHS England (Regional Analytical Team). Written submission to the Inquiry.
59. [Yu D, Jordan KP, Wilkie R, Bailey J, Fitzpatrick J, Ali N et al. Persistent inequalities in consultation incidence and prevalence of low back pain and osteoarthritis in England between 2004 and 2019. \*Rheumatol Adv Pract\* 2022; 7. doi:10.1093/RAP/RKAC106.](#)
60. [Department of Health and Social Care. Chief Medical Officer's Annual Report 2023 – Health in an Ageing Society. 2023.](#) (accessed 15 Nov 2023).
61. [Office for Health Improvement & Disparities. Understanding the drivers of healthy life expectancy report. 2023.](#) (accessed 5 Nov 2023).
62. Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M et al. The Marmot review: Fair society, healthy lives. London, 2010.
63. [Dr. Campbell Christie. Christie Commission on the future delivery of public services. 2011.](#) (accessed 15 Nov 2023).
64. Foot J, Hopkins T. A glass half-full: how an asset approach can improve community health and well-being. Great Britain improvement and development agency; 2010.
65. [Morgan A, Ziglio E, Davies M. Health assets in a global context: Theory, methods, action. Springer New York, 2010 doi:10.1007/978-1-4419-5921-8.](#)
66. Meader N, King K, Moe-Byrne T, Wright K, Graham H, Petticrew M et al. A systematic review on the clustering and co-occurrence of multiple risk behaviours. *BMC Public Health* 2016; 16: 1–9.
67. Health Social Care and Sport Committee, Scottish Parliament. Health and Wellbeing of Children and Young People. 2022.
68. [Public Health England, Royal Osteoporosis Society. Muscle and bone strengthening activities for children and young people \(5 to 18 years\) A rapid evidence review. 2021.](#) (accessed 6 Nov 2023).
69. [Department for Work & Pensions. Households below average income: for financial years ending 1995 to 2021. 2022.](#) (accessed 5 Nov 2023).
70. [Joseph Rowntree Foundation. We can solve poverty in the UK. 2016.](#) (accessed 5 Nov 2023).
71. [Taylor I, Schmuecker K, Joseph Rowntree Foundation. What protects people from very deep poverty, and what makes it more likely? 2023.](#) (accessed 5 Nov 2023).
72. Versus Arthritis. Written submission to the Inquiry.
73. [The Work and Health Unit \(WHU\) – Department for Work and Pensions \(DWP\) & Department of Health and Social Care \(DHSC\). Summary: Understanding the provision of occupational health and work-related musculoskeletal services. 2020.](#) (accessed 24 Sep 2023).
74. Chartered Society of Physiotherapy. Written submission to the Inquiry.
75. [HM Government. Occupational Health: Working Better – Summary of Responses to the Consultation and the UK Government Response. 2023.](#) (accessed 25 Nov 2023).
76. Lupus UK. Written submission to the Inquiry.
77. Child and Young Person Rheumatology service in the East Midlands. Written submission to the Inquiry.
78. Bennett IM, Chen J, Soroui JS, White S. The contribution of health literacy to disparities in self-rated health status and preventive health behaviors in older adults. *Ann Fam Med* 2009; 7: 204–211.
79. Howard DH, Sentell T, Gazmararian JA. Impact of Health Literacy on Socioeconomic and Racial Differences in Health in an Elderly Population. *J Gen Intern Med* 2006; 21: 857.
80. [Yates SJ, Carmi E, Lockley E, Pawluczuk A, French T, Vincent S. Who are the limited users of digital systems and media? An examination of U.K. evidence. First Monday 2020. doi:10.5210/fm.v25i7.10847.](#)
81. [Perrin A, Atske S. 7% of Americans don't use the internet. Who are they? | Pew Research Center. Pew Research Centre. 2021.](#) (accessed 17 Dec 2023).
82. Gwinnutt JM, Wiecezorek M, Balanescu A, Bischoff-Ferrari HA, Boonen A, Cavalli G et al. 2021 EULAR recommendations regarding lifestyle behaviours and work participation to prevent progression of rheumatic and musculoskeletal diseases. *Ann Rheum Dis* 2023; 82: 48–56.
83. [Nascimento Leite M, Kamper SJ, O'Connell NE, Michaleff ZA, Fisher E, Viana Silva P et al. Physical activity and education about physical activity for chronic musculoskeletal pain in children and adolescents. \*Cochrane Database Syst Rev\* 2023; 7. doi:10.1002/14651858.CD013527.PUB2.](#)
84. Dzakpasu FQS, Carver A, Brakenridge CJ, Cicuttini F, Urquhart DM, Owen N et al. Musculoskeletal pain and sedentary behaviour in occupational and non-occupational settings: a systematic review with meta-analysis. *International Journal of Behavioral Nutrition and Physical Activity* 2021 18:1 2021; 18: 1–56.

# Bibliography

85. [Sport England. Active Lives Adult Survey November 2021-22 Report. 2023.](#) (accessed 5 Nov 2023).
86. [Watts P, Phillips G, Petticrew M, Hayes R, Bottomley C, Yu G et al. Physical activity in deprived communities in London: examining individual and neighbourhood-level factors. PLoS One 2013; 8. doi:10.1371/JOURNAL.PONE.0069472.](#)
87. [World Health Organisation. Who European regional obesity report 2022. Copenhagen. 2022.](#) (accessed 5 Nov 2023).
88. [NHS Digital. Health Survey for England, 2021 part 1. 2022.](#) (accessed 6 Nov 2023).
89. [NHS Digital. National Child Measurement Programme, England, 2021/22 school year. 2022.](#) (accessed 5 Nov 2023).
90. [The Food Foundation, Goudie S. The Broken Plate.](#) (accessed 5 Nov 2023).
91. Richmond Group – Taskforce on Multiple Conditions, Revealing Reality. You only had to ask. What people with multiple conditions say about health equity. A report from the Taskforce on Multiple Conditions. 2021.
92. [Department for Environment Farming & Rural Affairs. Government food strategy. 2022.](#) (accessed 5 Nov 2023).
93. [Department for Environment F& RA. National food strategy for England. 2020.](#) (accessed 5 Nov 2023).
94. [Horton H, Walker P. Food plan for England condemned by its own lead adviser. The Guardian. 2022.](#) (accessed 5 Nov 2023).
95. [World Health Organisation. Valuing Health for All: Rethinking and building a whole-of-society approach – The WHO Council on the Economics of Health for all – Council Brief No. 3. 2022.](#) (accessed 5 Nov 2023).
96. [Wales Health Impact Assessment Support Unit, Public Health Wales.](#) (accessed 5 Nov 2023).
97. [Allen L, Briggs A, Burale H, Buzelli L, Cameron G, Dun-Campbell K et al. Public perceptions of health and social care: what are the priorities ahead of a general election? The Health Foundation. 2023.](#) (accessed 5 Nov 2023).
98. [Thomas C., The disease of disparity: A blueprint to make progress on health inequalities in England. IPPR. 2021.](#) (accessed 5 Nov 2023).
99. [Fuller DC. Next steps for integrating primary care: Fuller Stocktake report. 2022.](#) (accessed 28 Oct 2023).
100. Local Government Association. Written submission to the Inquiry.
101. Written submission from Connect Health South Tyneside Community MSK Service.
102. Written submission to the Inquiry from an MSK service in the North West of England.
103. Joe Waugh. Clinical Lead First Contact Physiotherapist Well Up North Primary Care Network. Written evidence to the Inquiry.
104. Andrew Bennett. NHS England National Clinical Director for MSK & Consultant Physiotherapist at Sutton Health and Care Alliance, Epsom and St Helier NHS Trust. Written evidence to the Inquiry.
105. [NHS England. NHS England " A national framework for NHS – action on inclusion health. 2023.](#) (accessed 1 Nov 2023).
106. Rogans-Watson R, Shulman C, Lewer D, Armstrong M, Hudson B. Premature frailty, geriatric conditions and multimorbidity among people experiencing homelessness: a cross-sectional observational study in a London hostel. *Housing, Care and Support* 2020; 23: 77–91.
107. Dawes J, Deaton S, Greenwood N. Homeless people's access to primary care physiotherapy services: an exploratory, mixed-method investigation using a follow-up qualitative extension to core quantitative research. *BMJ Open* 2017; 7: e012957.
108. Royal Osteoporosis Society. Written submission to the Inquiry.
109. Jo Dawes, physiotherapist and NIHR Doctoral Research Fellow at Institute of Epidemiology and Healthcare, University College London.
110. Jane Ashbrook. Physiotherapist and Senior Lecturer at Manchester University. Written submission to the Inquiry.
111. Expert panel contributions by Professor Durka Dougall – senior consultant and programme director in the Leadership and Organisational Development Team at The King's Fund, and a medical consultant in public health medicine.
112. Andrew Bennett. NHS England National Clinical Director for MSK & Consultant Physiotherapist at Sutton Health and Care Alliance, Epsom and St Helier NHS Trust. Oral evidence to the Inquiry.
113. Dr. Bola Owolabi, GP & Director of the National Healthcare Inequalities Improvement Programme, NHS England. Oral evidence to the Inquiry.
114. MSK service in the South East of England. Written submission to the Inquiry.
115. Consultant paediatric rheumatologist based in the North West of England. Written submission to the Inquiry.
116. [NHS England. Core20PLUS5 \(adults\) – an approach to reducing healthcare inequalities.](#) (accessed 1 Dec 2023).
117. Expert panel contribution. Dr. Jo Bibby, Director of Health at the Health Foundation.



# Bibliography

118. NHS England. NHS England's Statement on Information on Health Inequalities (duty under section 13SA of the National Health Service Act 2006). NHS England, 2023.
119. Enfield Musculoskeletal Community Health Hub. Written evidence to the Inquiry.
120. [Department of Health and Social Care. Healthcare Public Health Advice Service to Clinical Commissioning Groups. Guidance to support the provision of healthcare public health advice to CCGs. 2012.](#) (accessed 13 Sep 2023).
121. [The Scottish Government. National Health and Wellbeing Outcomes: A framework for improving the planning and delivery of integrated health and social care services. 2015.](#) (accessed 17 Dec 2023).
122. [Welsh Government. Social Services and Well-being \(Wales\) Act 2014. Statutory Guidance on Partnership Arrangements. 2020.](#) (accessed 17 Dec 2023).
123. Nuffield Trust. Written evidence submission to the Inquiry.
124. Dr. Aoife Molloy, Consultant in infectious diseases and acute medicine and senior clinical adviser for healthcare inequalities improvement, NHS England – oral evidence to the Inquiry.
125. [Parsons J, Bryce C, Practice HA-BJ of G, 2021. Which patients miss appointments with general practice and the reasons why: a systematic review. British Journal of General Practice 2021; 71 \(707\): e406-e412. DOI: 10.3399/BJGP.2020.1017.](#)
126. Parsons J, Abel G, Mounce LTA, Atherton H. The changing face of missed appointments. *British Journal of General Practice* 2023; 73: 134–135.
127. Wilson R, Winnard Y. Causes, impacts and possible mitigation of non-attendance of appointments within the National Health Service: a literature review. *J Health Organ Manag* 2022; 36: 892–911.
128. [Office for National Statistics. Inequalities in Accident and Emergency department attendance, England. 2023.](#)
129. McQueenie R, Ellis DA, McConnachie A, Wilson P, Williamson AE. Morbidity, mortality and missed appointments in healthcare: A national retrospective data linkage study. *BMC Med* 2019; 17: 1–9.
130. [Rare Autoimmune Rheumatic Diseases Alliance. REDUCE, IMPROVE, EMPOWER Addressing the shared needs of rare autoimmune rheumatic diseases. 2018](#) (accessed 4 Nov 2023).
131. Bouraoui A, Glanville J, Ismail S, Fisher C, Mavrommatis S, Leandro M et al. Relationship between ethnicity and multidisciplinary intervention for young people with rheumatic and musculoskeletal diseases. *Future Health J* 2022; 9: 317.
132. Jacqui Clinch. Consultant paediatric rheumatologist at Bristol Children's Hospital. Oral evidence to the Inquiry.
133. Ehlers-Danlos Support UK. Written submission to the Inquiry.
134. Ann Hagell, Association for Young People's Health. Oral evidence to the Inquiry.
135. Emily Earle. Local Networks Coordinator. CCAA – Children with Arthritis. Written contribution to the Inquiry.
136. [Gregory A. Regulator to review safety concerns over medicines courier used by NHS | Health | The Guardian. The Guardian. 2023.](#) (accessed 16 Oct 2023).
137. [British Society for Rheumatology. Parliamentary intervention needed on homecare medicine delivery services. 2022.](#) (accessed 16 Oct 2023).
138. Barker I, Steventon A, Williamson R, Deeny SR. Self-management capability in patients with long-term conditions is associated with reduced healthcare utilisation across a whole health economy: cross-sectional analysis of electronic health records. *BMJ Qual Saf* 2018; 27: 989–999.
139. Webb J, Baker A, Palmer T, Hall A, Ahlquist A, Darlow J et al. The barriers and facilitators to physical activity in people with a musculoskeletal condition: A rapid review of reviews using the COM-B model to support intervention development. *Public Health in Practice* 2022; 3: 100250.
140. Chloe Stewart, Health Psychologist. Oral evidence to the Inquiry.
141. Expert panel contributions by Dr. Nav Chana. National Primary Care Home Clinical Director & Charit of the National Association of Primary Care.
142. [What is social prescribing? | The King's Fund.](#) (accessed 20 Sep 2023).
143. Healthwatch Sussex. Written submission to the Inquiry.
144. Babatunde OO, Corp N, Shivji N, Rowlands G, Quicke J, Healey EL et al. Interventions for supporting self-management in people with musculoskeletal pain, including focus on varying levels of health literacy: A systematic overview of reviews. *Health Open Research* 2023; 5: 2.
145. Jim Phillips, Executive Director of the Centre for Empowering Patients and Communities. Oral evidence to the Inquiry.
146. Chris Dobson Principal Physiotherapist and Project lead – Paediatric Orthopaedic Cluster Clinics, Cardiff & Vale University Health Board – Written evidence submission to the Inquiry.

# Bibliography

147. [Rt Hon Patricia Hewitt. The Hewitt Review. An independent review of integrated care systems. 2023.](#) (accessed 23 Sep 2023).
148. [Supported Self-Management in Musculoskeletal Services. Toolkit for implementing supported self-management \(SSM\) in musculoskeletal \(MSK\) primary and community services. 2023.](#) (accessed 27 Sep 2023).
149. Aiden H. Multimorbidity. Understanding the challenge. A report for the Richmond Group of Charities. 2018.
150. [Watt T, Raymond A, Ratchet-Jacquet L. Quantifying health inequalities in England. The Health Foundation. 2022.](#) (accessed 17 Dec 2023).
151. Dr Sarah Mackie – Associate Clinical Professor in Vascular Rheumatology, University of Leeds Honorary Consultant Rheumatologist, Leeds Teaching Hospitals NHS Trust. Written submission to the Inquiry.
152. [The Health Foundation, Watt T, Raymond A, Ratchet-Jacquet L, Head A, Kypridemos C et al. Health in 2040: projected patterns of illness in England. 2023.](#) (accessed 17 Dec 2023).
153. [Officer for Health Improvement and Disparities. Physical activity: applying All Our Health. 2022.](#) (accessed 17 Dec 2023).
154. [The British Psychological Society. Psychological perspectives on obesity: Addressing policy, practice and research priorities. Psychological perspectives on obesity: Addressing policy, practice and research priorities 2019. doi:10.53841/BPSREP.2019.REP130.](#)
155. [NICE \(National Institute for Care and health Excellence\). NICE guideline \[NG193 – Chronic pain \(primary and secondary\) in over 16s: assessment of all chronic pain and management of chronic primary pain. 2021.](#) (accessed 18 Dec 2023).
156. [Department of Health and Social Care \(England\), Welsh Government, Department of Health \(Northern Ireland\), Scottish Government. UK Chief Medical Officers' Physical Activity Guidelines. 2019.](#) (accessed 18 Dec 2023).
157. Dr. Ian Bernstein. Written evidence to the Inquiry.
158. Douglas F, Health P, Bn P, Machray K, Msc B, Ma VE. Health professionals' experiences and perspectives on food insecurity and long-term conditions: A qualitative investigation. Health Soc Care Community 2020; 28: 404–413.
159. [Department for Health and Social Care. Tackling obesity: empowering adults and children to live healthier lives. 2020.](#) (accessed 3 Nov 2023).
160. British Dietetic Association. Written evidence to the Inquiry.
161. Nutri. Written evidence to the Inquiry.
162. [British Dietetic Association. Eliminating weight stigma – guidelines for BDA communications.](#) (accessed 13 Nov 2023).
163. [Association for the Study of Obesity. Association for the Study of Obesity: position statement on weight stigma and discrimination.](#) (accessed 13 Nov 2023).
164. [ARMA. 'Rationing' Access to Joint Replacement Surgery and Impact on People with Arthritis and Musculoskeletal Conditions Policy Position Paper.](#) (accessed 4 Jun 2023).
165. Protheroe J, Whittle R, Bartlam B, Vida Estacio E, Clark LB, Lib D et al. Health literacy, associated lifestyle and demographic factors in adult population of an English city: a cross-sectional survey. Wiley Online Library. Health Expectations 2017; 20: 112–119.
166. [Public Health England, UCL Institute of Health. Local action on health inequalities. Improving health literacy to reduce health inequalities. 2015.](#) (accessed 18 Dec 2023).
167. Roh YH, Koh Y Do, Noh JH, Gong HS, Baek GH. Effect of health literacy on adherence to osteoporosis treatment among patients with distal radius fracture. Arch Osteoporos 2017; 12: 1–6.
168. Panagioti M, Skevington SM, Hann M, Howells K, Blakemore A, Reeves D et al. Effect of health literacy on the quality of life of older patients with long-term conditions: a large cohort study in UK general practice. Quality of Life Research 2018; 27: 1257–1268.
169. Lacey RJ, Campbell P, Lewis M, Protheroe J. The Impact of Inadequate Health Literacy in a Population with Musculoskeletal Pain. HLRP: Health Literacy Research and Practice 2018; 2: 214–220.
170. [Gorter A, Bakker MM, ten Klooster PM, Boonen A, Vonkeman HE. The impact of health literacy: associations with disease activity and medication prescription in patients with rheumatoid arthritis. Rheumatology 2023. doi:10.1093/RHEUMATOLOGY/KEAD094.](#)
171. [The Patient Information Forum \(PIF\).](#) (accessed 20 Dec 2023).
172. Hider S, Muller S, Gray L, Manning F, Brooks M, Heining D et al. Digital exclusion as a potential cause of inequalities in access to care: a survey in people with inflammatory rheumatic diseases Rheumatology Advances in Practice. Rheumatol Adv Pract 2022; 2023: 109.
173. Written submission to the Inquiry from an MSK service in the North East of England.
174. Written submission from a social enterprise in the South East of England.
175. Good Boost. Written evidence to the Inquiry

# Appendix

## Patient survey data

### Age distribution of respondents

17 or younger	2.09%
18-20	0.42%
21-29	6.69%
30-39	7.11%
40-49	17.57%
50-59	23.43%
60 – 69	22.59%
70 or older	19.25%
Prefer not to say	0.84%

### National distribution

	Survey responses	UK population
England	83.84%	84.3%
Scotland	7.07%	4.6%
Wales	6.57%	8.1%
Northern Ireland	2.53%	2.8%

### Income

Below £10,000	5.06%
£10, 001 to £15,000	12.24%
£15,001 – 20,000	8.02%
£20,001 to £30, 000	15.61%
£30,001 to £40, 000	9.70%
£40,001 to £50, 000	7.17%
£50,001 to £60,000	8.86%
Above £60,001	12.24%
Prefer not to say	21.10%

### Education Level

None	3.77%
O level/CSE/GCSE or equivalent	14.23%
A level or equivalent	17.99%
Degree or equivalent	34.31%
Masters degree or equivalent	18.41%
PhD	5.86%
Prefer not to say	5.44%

### Disability

Yes	61.76%
No	31.93%
Prefer not to say	6.3%

Percentages may not add up to 100% due to rounding.

# Appendix

## Ethnicity

White English / Welsh / Scottish / Northern Irish / British	86.92%
Irish	1.27%
Gypsy or Irish Traveller	0.00%
Other white background	5.91%
Black British	0.42%
Black African	0.00%
Black Caribbean	0.42%
Other black background	0.00%
White and Black Caribbean	0.00%
White and Black African	0.42%
White and Asian	0.42%
Any other mixed / multiple ethnic background	0.42%
Asian British	0.84%
Indian	0.42%
Pakistani	0.00%
Bangladeshi	0.00%
Chinese	0.00%
Any other Asian background	0.00%
Arab	0.00%
Prefer not to say	0.84%
Other (please specify) Canadian; Black British Caribbean	1.69%

# Act Now: Musculoskeletal Health Inequalities and Deprivation

Report of ARMA's inquiry

