A woman with short brown hair, wearing a dark vest over a checkered shirt, stands in a field of purple flowers. The background shows rolling green hills under a blue sky with light clouds. The overall scene is bright and natural.

THE STATE OF MUSCULOSKELETAL HEALTH 2019

Arthritis and other musculoskeletal conditions in numbers

**VERSUS
ARTHRITIS**

INDEX

Introduction	03
Glossary	05
What are musculoskeletal conditions?	06
What is the scale of the problem?	07
Key factors affecting musculoskeletal health	10
Physical activity	10
Obesity	11
Multimorbidity	12
What is the impact?	13
Years lived with disability	13
Work	14
Health and care services	16
Economy	17
Economic benefits of musculoskeletal research	18
Condition specific statistics	19
Axial spondyloarthritis	20
Gout	22
Juvenile idiopathic arthritis	25
Rheumatoid arthritis	27
Osteoarthritis	31
Back pain	34
Fibromyalgia	37
Osteoporosis and fragility fractures	38
References	40



INTRODUCTION

Musculoskeletal (MSK) conditions such as arthritis and back pain affected an estimated 18.8 million people across the UK in 2017. They accounted for more than 22% of the total burden of ill health (morbidity) in the UK, and low back and neck were the biggest cause of ill health overall across all ages.¹

As people age, the risk of having an MSK condition rises. Modifiable risk factors, those factors people can take measures to address, such as excess weight and physical inactivity, increase the risk of developing a MSK condition and can exacerbate an existing condition.

While these conditions are incredibly common, many people affected are still not receiving the recognition and support they deserve and need. People with arthritis and related conditions often experience ongoing pain and fatigue, which make ordinary, everyday activities a struggle or impossibility. These conditions stop millions of people from being able to work, have a family or remain independent and spontaneous – all things many of us take for granted.

What is the State of Musculoskeletal Health?

The State of Musculoskeletal Health is a compendium of statistics that aims to provide the best picture available on the current overall burden and subsequent impact of MSK conditions in the UK today.

The burden can be defined by the number of people affected by a condition (i.e. prevalence), at risk of developing the disease, and its wider societal impact. There are many different types of MSK conditions. This report provides detailed information on eight of the most prevalent MSK conditions.

Who is it for?

It is a resource for health professionals, policy makers, public health leads and anyone interested in MSK health. We believe that with the best information you can build awareness, make more informed decisions, feel more confident and ultimately help more people with MSK conditions.

What methodology was used?

Data, information and insight on MSK conditions are available from a range of different sources. Depending on the story you are trying to tell, and your audience, it is important to use the right kind of evidence.

Different types of evidence can help answer different types of questions. The key is to select evidence based on the question and what is most relevant and useful for answering it. There may be several different primary sources of evidence that can be used to answer a question.

Qualitative data such as an individual story can give a strong message, but to give an accurate picture at a national level you may need to use data from a cross sectional survey, real world data (such as GP records or government collected datasets) or findings from a systematic literature review. In an ideal world, you would be able to use a systematic review of all available evidence to answer every question.

The evidence used in this report mainly comes from:

1. quantitative studies (including systematic reviews, cross-sectional surveys, cohort/case-control studies, and experimental studies)
2. real world evidence (data from national datasets and audits)
3. qualitative studies and non-experimental evaluation.

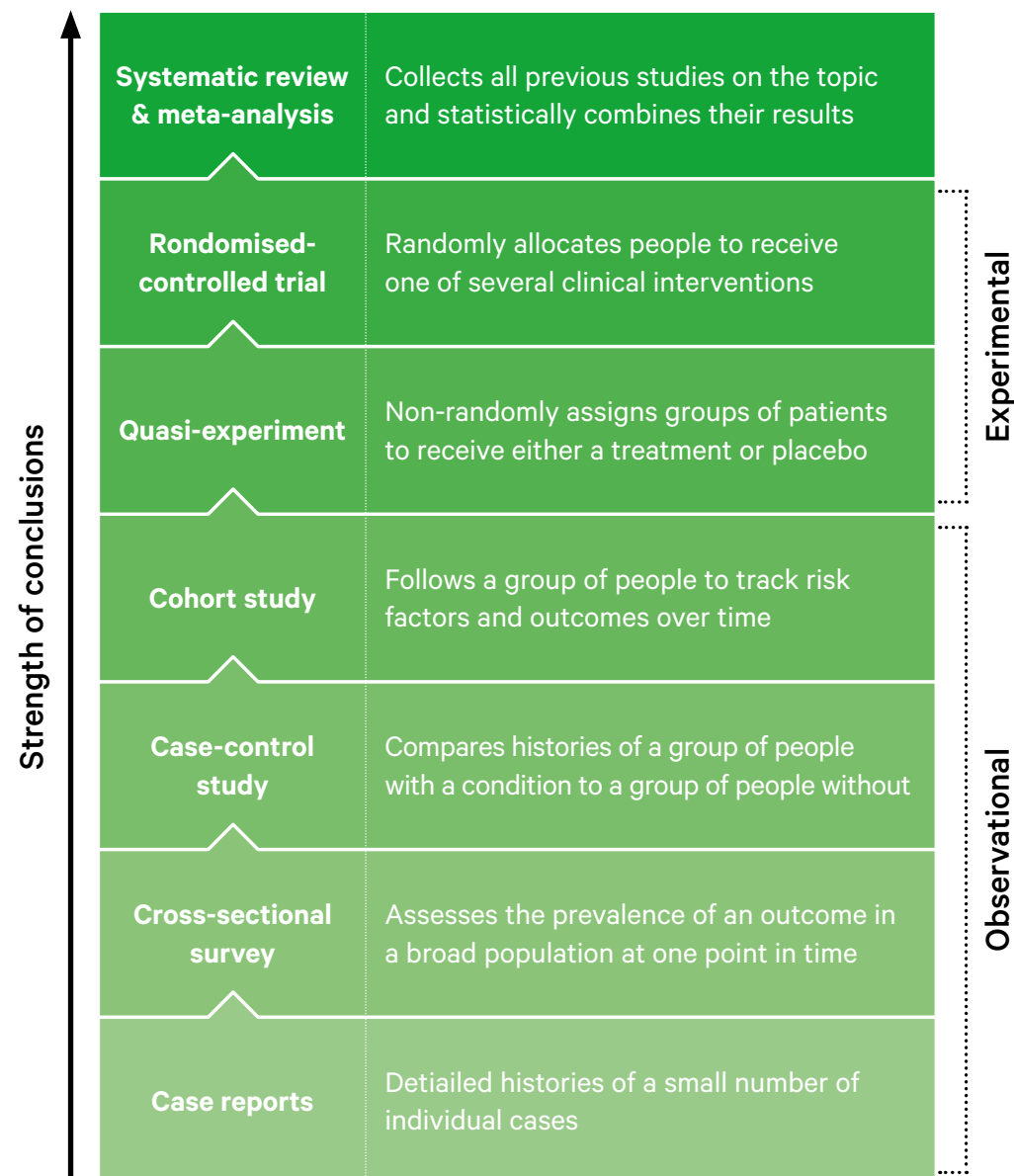
Generally speaking, the following hierarchy² was used to evaluate evidence depending on the research question asked. It is however important to note that Real World Evidence (RWE) often in the form of non-interventional cohort studies does not traditionally have a place on these evidence hierarchies. The strength of real-world evidence will vary depending on the quality of the datasets.

About Versus Arthritis

We are a new charity here to demand and deliver better with and for people with arthritis. We are a movement of volunteers, healthcare professionals, researchers, family and friends doing everything we can to push back against arthritis. We invest in and deliver cutting edge research, provide quality services and advice, and campaign for arthritis to be a health priority, so the pain, fatigue and isolation of arthritis are no longer tolerated.

Versus Arthritis came to life in 2018 as a result of the merger of two of UK's largest arthritis charities – Arthritis Research UK and Arthritis Care.

Hierarchy of health evidence²



GLOSSARY

Arthritis - a general term that most people use to mean painful joints. Medically, it refers to many different conditions leading to inflamed or damaged joints.

Comorbidity - any additional health conditions that people may have, beyond the main condition being addressed.³

Disabled - someone with a long-term condition that reports it substantially reduces their ability to carry out day-to-day activities, as defined by the Equality Act 2010.⁴

Disability adjusted life-year (DALY) - a single metric of overall disease burden combining years of life lost (YLLs) due to mortality and years lived with disability (YLDs). One DALY can be thought of as one lost healthy life year.⁵

Employment - people aged 16 or over who did some paid work in the reference week (as an employee or self-employed); those who had a job that they were temporarily away from (e.g. on holiday); those on government-supported training and employment programmes and those doing unpaid family work (e.g. working in a family business).⁶

Finished Consultant Episodes (FCEs) - one episode of care within an inpatient stay under one responsible consultant.

Fit note - issued to patients by doctors and other healthcare professionals following an assessment of their fitness for work. People who are off work sick for more than seven days will normally need to provide their employer with a fit note.

Inactive - Participating in less than 30 minutes of moderate intensity physical activity (any activity where the effort put in is enough to raise your breathing rate) per week.

Incidence - the rate of new (or newly diagnosed) cases of disease, generally reported as the number of new cases occurring within a period of time (e.g. per month or year).

Meta-analysis - a study design that systematically combines and assesses previous qualitative and quantitative studies about a topic or research area in order to develop a single conclusion.

Morbidity - a term used to describe the state of being ill, diseased or disabled. It refers to the level of sickness and disability characterising a population.⁷

Multimorbidity - a person living with multimorbidity has two or more long-term chronic conditions.³

Musculoskeletal conditions - a broad range of health conditions affecting bones, joints and muscles, pain syndromes and rarer conditions of the immune system.

Prevalence - the percentage of a population that is affected with a disease at a given time.

Risk factor - any attribute, characteristic or exposure of an individual that increases the likelihood of developing a disease or disorder. Some risk factors are modifiable, because you can change them (e.g. smoking, obesity) others are non-modifiable, because you can't directly change them (e.g. age, sex, genetics).








Unemployment - refers to people without a job, who were able to start work in the two weeks following their Annual Population Survey interview, and who had either looked for work in the four weeks prior to interview or were waiting to start a job they had already obtained.⁶

Work days lost - the number of work days lost for all people in employment aged over 16 years due to sickness absence.

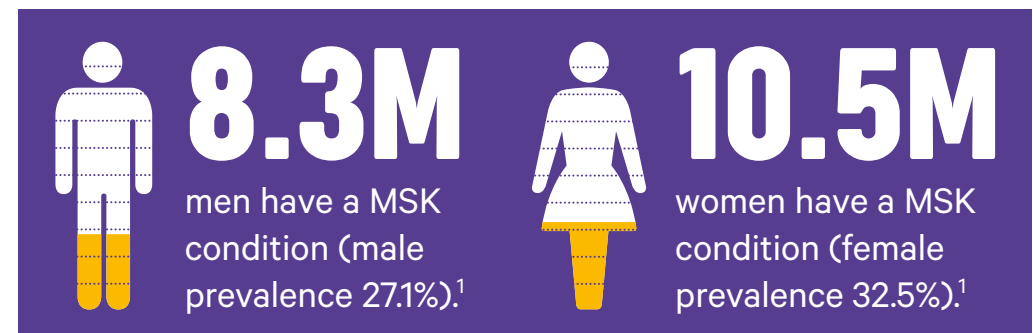
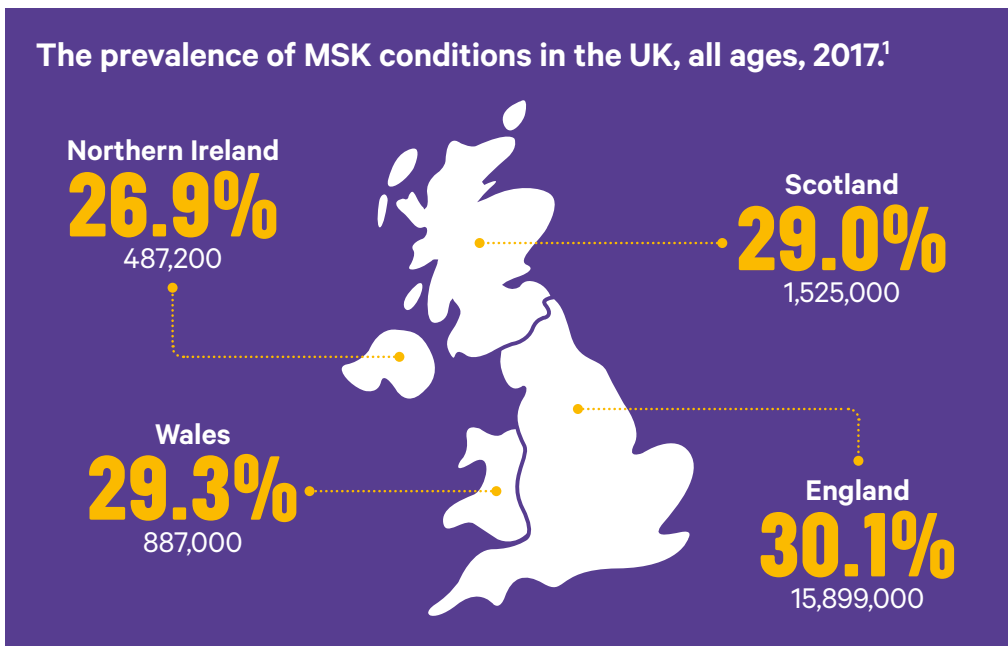
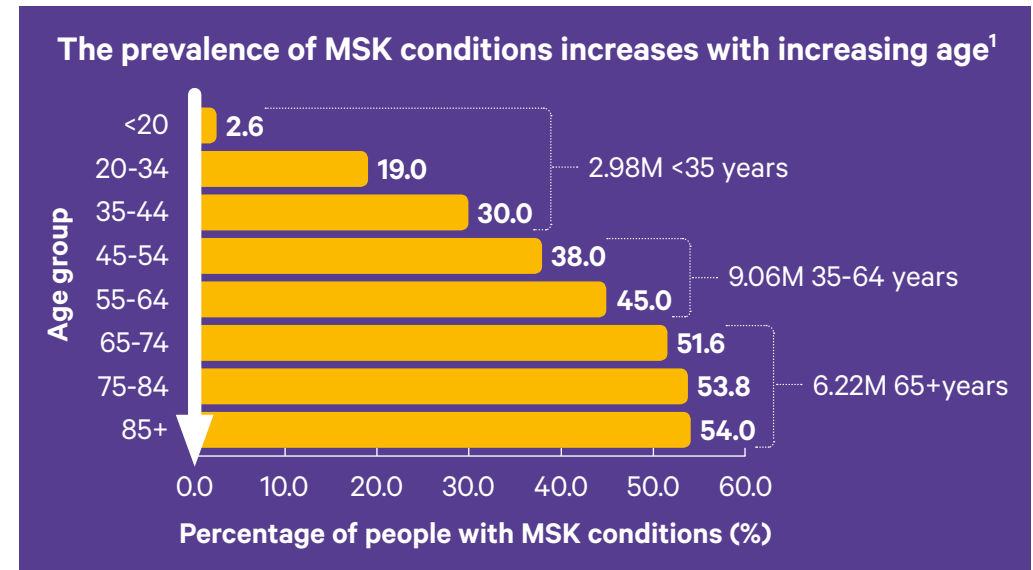
Years lived with disability (YLD) - years of life lived with any short-term or long-term health loss.⁵

WHAT ARE MUSCULOSKELETAL CONDITIONS?

The term ‘musculoskeletal conditions’ is often used to include a broad range of health conditions affecting the bones, joints, muscles and spine, as well as rarer autoimmune conditions such as lupus. Common symptoms include pain, stiffness and a loss of mobility and dexterity, often interfering with people’s ability to carry out their normal daily activities. Broadly speaking there are three groups of musculoskeletal conditions:⁸

	 Age	 Progression	 Prevalence	 Impact	 Main treatment	 Treatment location	 Risk factors
INFLAMMATORY CONDITIONS (e.g. rheumatoid arthritis)	Affects any age.	Often rapid onset.	Common. (e.g. over 430,000 adults in the UK have rheumatoid arthritis).	Can affect and part of the body including skin, eye and internal organs.	Treated by suppressing the immune system.	Urgent specialist treatment needed usually provided in hospital outpatients.	Genetic factors, sex, smoking, obesity and diet.
CONDITIONS OF MSK PAIN (e.g. osteoarthritis, back pain)	More common with rising age.	Gradual onset.	Very common. (e.g. 8.75 million people in the UK have sought treatment for osteoarthritis).	Affects the joints, spine and pain system.	Treated with physical activity and pain management, and in severe cases joint replacements.	Treatment based in primary care.	Age (late 40s onwards), sex, genetic factors, physical injury, obesity and previous joint illness or injury.
OSTEOPOROSIS AND FRAGILITY FRACTURES (e.g. fracture after fall from standing height)	Affects mainly older people.	Osteoporosis is a gradual weakening of bone. Fragility fractures are sudden discrete events.	Common. (e.g. 500,000 fragility fractures occur in the UK each year).	Hip, wrist and spinal bones are most common sites of fractures.	Medication to strengthen bones, falls prevention fracture treatment.	Prevention is based in primary and ambulatory care; fractures may require surgery.	Age, genetic factors, smoking, alcohol, inflammatory disorders, poor nutrition and low physical activity.

WHAT IS THE SCALE OF THE PROBLEM?



¹It is difficult to accurately determine how many people have arthritis only or arthritis and other MSK conditions in the UK. The data currently available on specific conditions comes from several different sources (e.g. modelled estimates, national surveys, and registers) and is most often not routinely collected. We currently rely on the Global Burden of Disease study to provide us with an estimate of the total number of people with any MSK condition in the UK today. This estimate covers some of the most prevalent MSK conditions including osteoarthritis, rheumatoid arthritis, gout, low back pain, neck pain, and other MSK conditions.

MSK conditions are more prevalent among people in the most deprived decile areas.

Although prevalent across all areas of society, people in the poorest communities have a 60% higher prevalence of long-term conditions than those in the richest.⁹ A higher percentage of people in the most deprived decile areas report a long-term MSK condition compared to the least deprived decile areas.^{10,11,12} Pain is one of the most common symptoms experienced by people with MSK conditions.

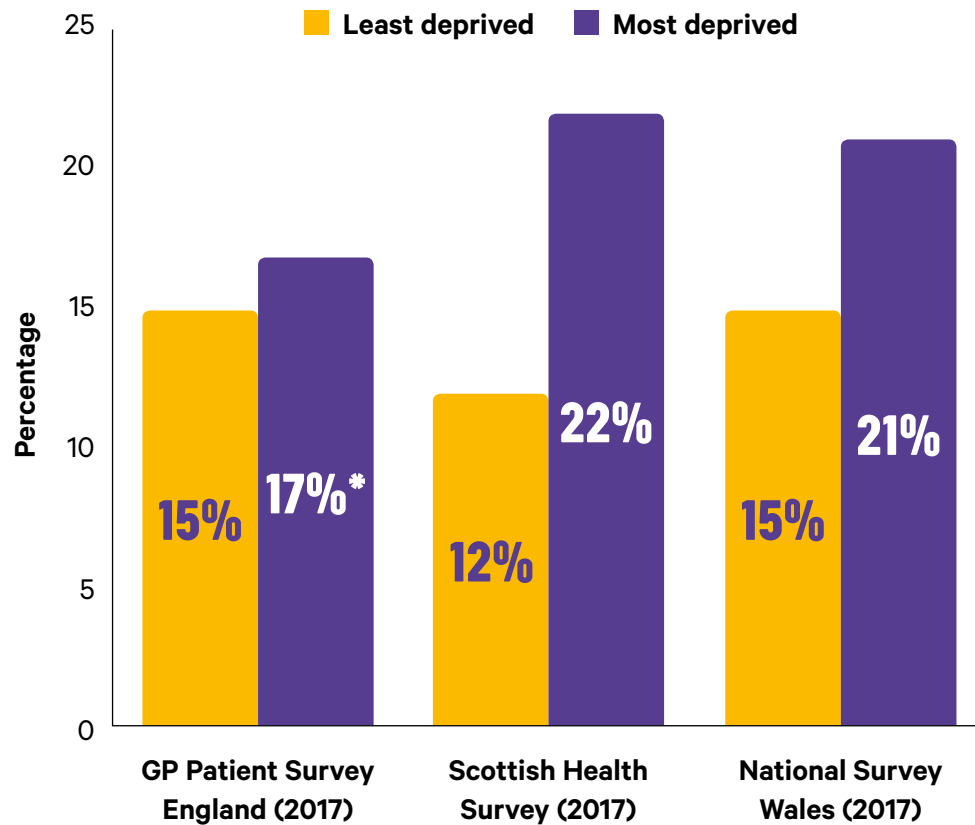


Figure 1. Proportion of people (16+) reporting a long-term (illnesses lasting or expected to last 12 months or more) MSK condition by deprivation decile.^{10,11,12} *significantly different

34% OF ADULTS IN ENGLAND REPORTED CHRONIC PAIN IN 2017¹³

Chronic pain is more prevalent among people in lower income groups.¹³

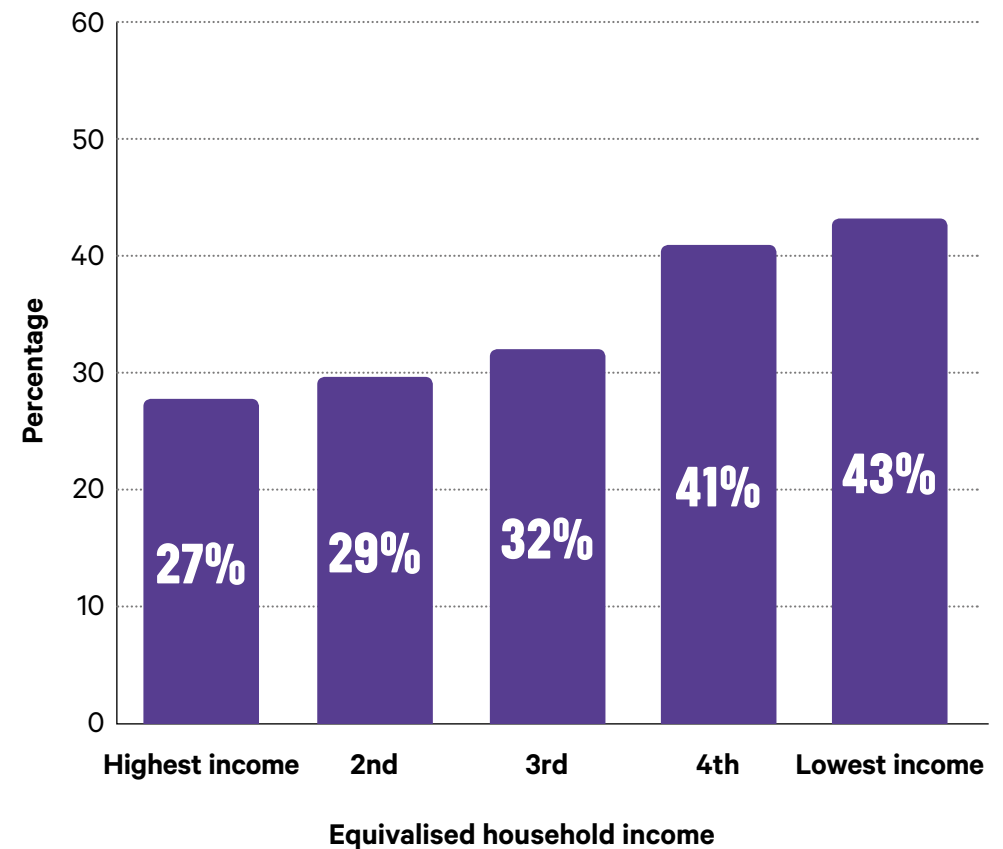


Figure 2. Proportion of people (16+) reporting chronic pain by equivalised household income, England, 2017.¹³

Condition specific estimates - United Kingdom



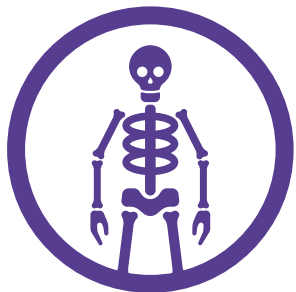
Inflammatory arthritis

Over 430,000 people have rheumatoid arthritis.^{1, 18}

Around 12,000 children have juvenile idiopathic arthritis.¹⁴

222,000 people have ankylosing spondylitis.^{9, 15}

Around 1.6 million people have gout.¹⁶



Musculoskeletal pain

Over 8.75 million people aged 45 and over have sought treatment for osteoarthritis.¹⁷

Over 10 million people in the UK have persistent back pain.¹⁸

Between 1.7 to 2.8 million adults have fibromyalgia in the UK.¹⁹



Osteoporosis and fragility fractures

3 million people have osteoporosis.²⁰

500,000 fragility fractures occur each year.²¹

KEY FACTORS AFFECTING MSK HEALTH

PHYSICAL INACTIVITY

Around one in four adults (16+) in the UK do less than 30 minutes of physical activity per week (inactive).^{10, 11, 22, 23} Inactive people are at increased risk of developing a painful MSK condition. Exercise generally reduces overall pain for people with a MSK condition.

Over 4 in 10 people who report living with a long-term MSK condition are inactive.

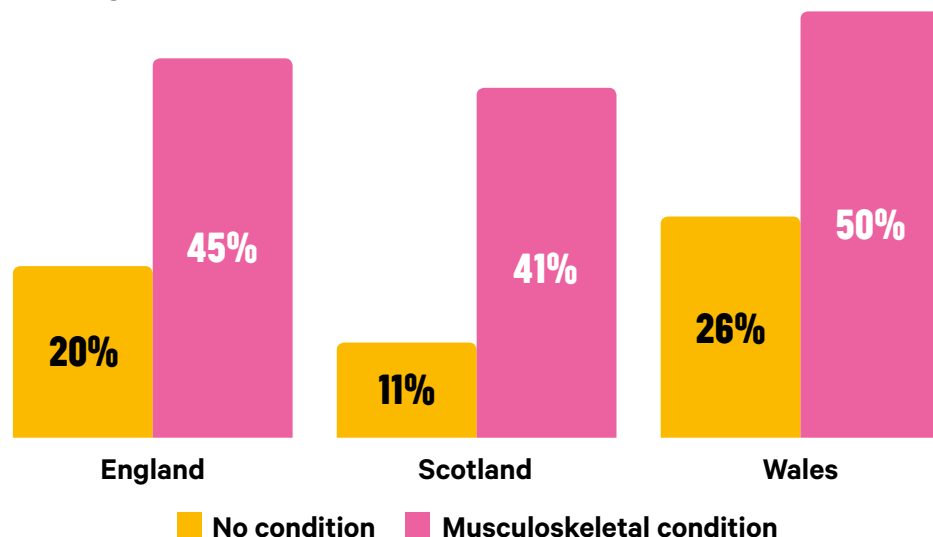







Figure 3. Proportion of adults (16+) reporting a long-term (illnesses lasting or expected to last 12 months or more) MSK condition who are inactive.^{10, 11, 22}

Keeping physically active is important for MSK health.

Regular physical activity reduces your risk of

-  Hip and knee osteoarthritis pain by **6%**²⁵
-  Joint and back pain by **25%**²⁴
-  Depression by up to **30%**²⁶
-  Hip fractures by up to **68%**²⁷
-  Falls by **76%**²⁸

Lack of physical activity is costing the UK an estimated £7.4 billion a year, including £0.9 billion to the NHS alone.²⁹

The UK Chief Medical Officers' Guidelines recommend each week adults (19-64 years) do:³⁰

- at least 150 minutes moderate intensity activity, 75 minutes' vigorous activity, or a mixture of both
- strengthening activities on two days
- reducing extended periods of sitting

OBESITY

Musculoskeletal conditions are one of the biggest threats to the health of people who are obese. Over 6 in 10 adults (16+) in the UK are overweight or obese.^{10, 11, 22, 23} Obesity directly damages weight-bearing joints such as knees and hips because of the abnormally high loads they have to carry.³³ 26-29% of children (2-15 years) in the UK are overweight or obese.^{10, 22, 23} Adolescents who are obese are more likely to experience persistent or recurrent joint pain, including knee pain.³²

7 in 10 people who report living with a long-term MSK condition are overweight or obese.

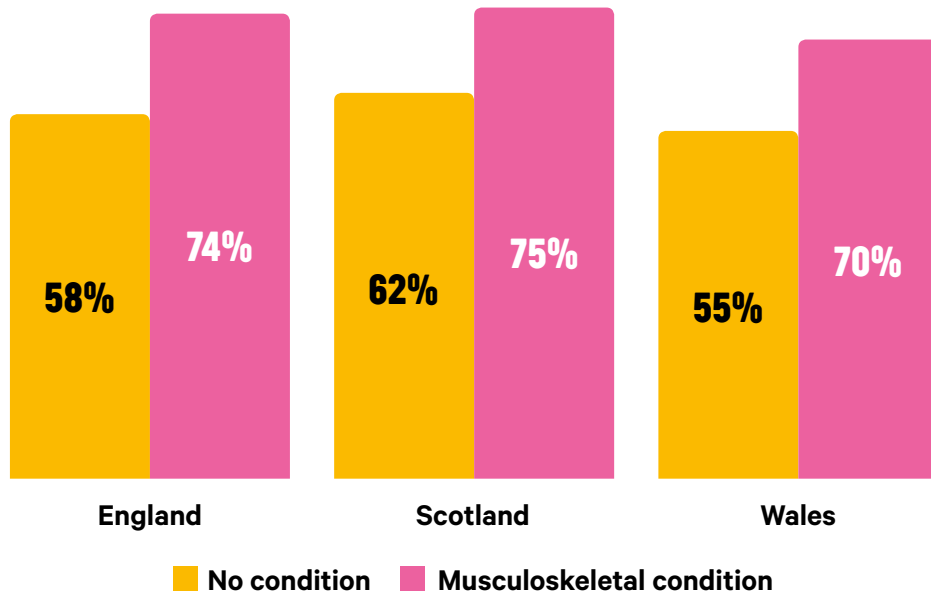


Figure 4. Proportion of adults (16+) reporting a long-term (illnesses lasting or expected to last 12 months or more) MSK condition who are overweight or obese.^{10,11,22}

AVERAGE BMI OF HIP AND KNEE REPLACEMENT PATIENTS³¹



Hip replacement **28.8 (overweight)**



Knee replacement **31.0 (obese)**

England, Wales, Northern Ireland, 2017

Excess weight increases the risk of developing osteoarthritis and other MSK conditions.

Compared to people who are of a healthy or normal body weight, people who are obese are:



Two times more likely to develop knee osteoarthritis,³⁴ with many estimates putting the risk between four and six times greater.^{35, 36, 37}



Between 1.5 and 2.5 times more likely to have back pain, rising to four times more likely among those who are highly obese.^{38,39}



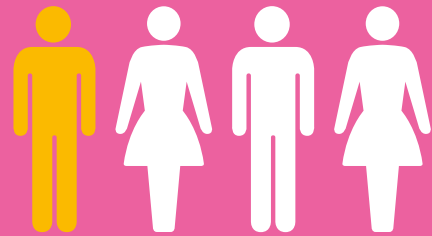
Two times more likely to develop gout and tend to develop it at a younger age.⁴⁰



At a significantly increased risk of developing rheumatoid arthritis.^{41, 42}

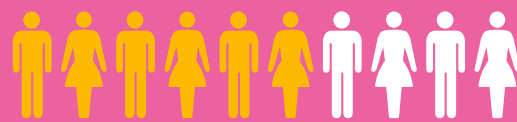
MULTIMORBIDITY

The number of people living with two or more long term conditions (multimorbidity) is growing increasingly common. Multimorbidity is significantly associated with increasing age and higher social deprivation.⁴⁵ By 2035, the number of adults over 65 years in England living with multimorbidity is expected to increase from 54% in 2015 to 68%.⁴⁵ People in the most deprived areas are significantly more likely to report multimorbidity⁴³ and have shown to develop multimorbidity 10-15 years earlier compared to those in the least derived.⁴⁵

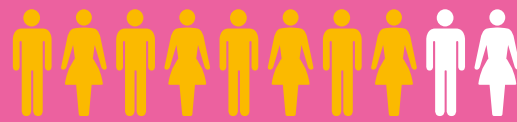


ONE IN FOUR
people are living with
two or more long-
term conditions^{43,44}

THE PREVALENCE
of multimorbidity
increases from
around 6 in 10
aged 65–84 years
to 8 in 10 aged 85
years or over^{43,44}



65–84 years



85 years or over

PEOPLE WITH long-term MSK conditions were almost twice as likely to report feeling anxious or depressed compared to the normal population.¹²



Musculoskeletal conditions are very common in multimorbidity.

- Nearly four in ten people with multimorbidity are living with a physical and a mental health condition.^{43,44}
- One in eight people in England report living with at least two long-term conditions, at least one of which is MSK related.¹²
- Among people over 45 years of age in England who report living with a major long-term condition, more than 3 in 10 also have an MSK condition increasing to almost 5 in 10 people among those aged 65 plus.³

Pain and functional limitations of arthritis can make it harder to cope with multiple conditions, causing fatigue and depression.

- Four out of five people with osteoarthritis have at least one other long-term condition such as hypertension, cardiovascular disease or depression.³
- One in six people with rheumatoid arthritis are affected by depression.⁴⁶

WHAT IS THE IMPACT?

YEARS LIVED WITH DISABILITY



The pain and disability caused by arthritis and other MSK conditions result in a substantial loss in quality of life.

- Depression is four times more common among people in persistent pain compared to those without pain.⁴⁸
- 78% of people with arthritis say they experience pain most days.⁴⁹
- People with a long-term MSK condition had an average EQ-5D (a standardised instrument for measuring health status) score of 0.58 compared with those without a long-term condition who had a better score of 0.92.⁵⁰

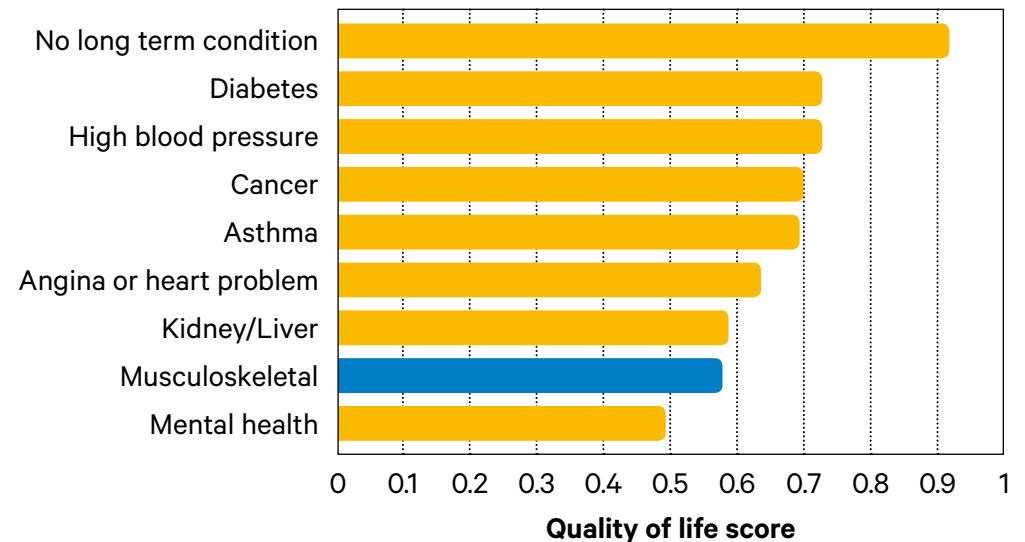


Figure 6. Average quality of life score for adults who live with a self-reported long-term condition, England, GP Patient Survey analysis, 2016-17.⁵⁰

WORK

People with MSK conditions are less likely to be in work than people without health conditions, and more likely to retire early. Around 63% of working age adults with an MSK condition are in work compared to 82% of people with no health condition.⁵¹ Being in good employment is protective of health. Conversely unemployment contributes to poor health.⁵³

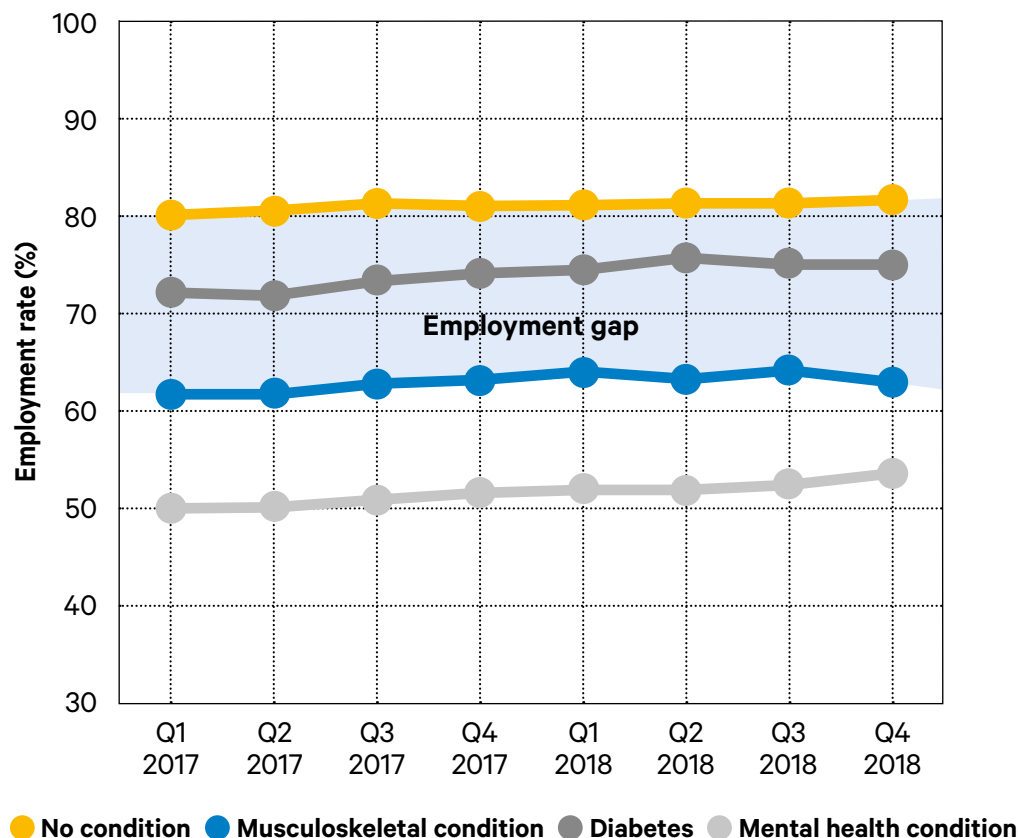


Figure 7. Quarterly employment rate by health condition, Labour Force Survey January 2017-December 2018.

ONE IN THREE WORKING AGE PEOPLE IN THE UK HAVE A HEALTH CONDITION.⁴⁷



ONE IN TEN EMPLOYEES IN THE UK REPORTED HAVING AN MSK PROBLEM.⁵²



TOP 3 REASONS FOR WORKING DAYS LOST IN 2017⁵³



28.2M LOST TO MSK CONDITIONS



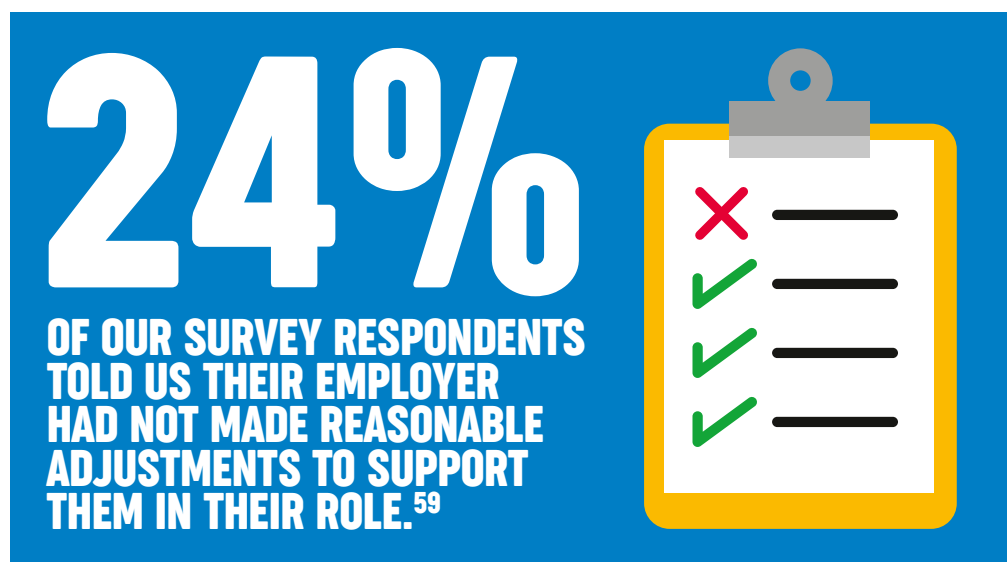
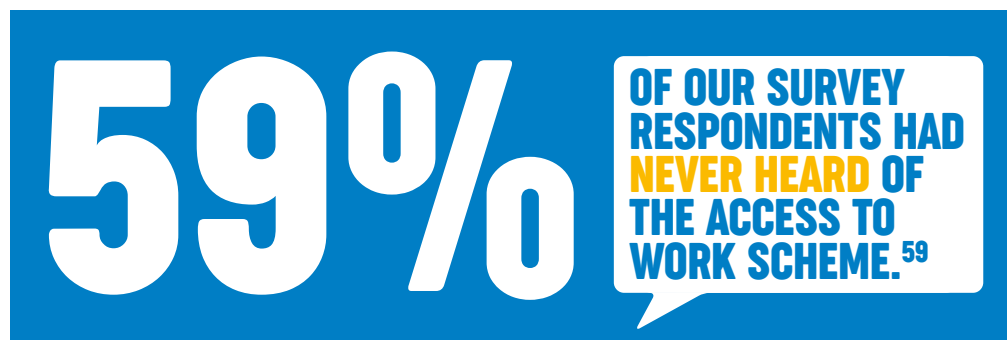
15.0M MENTAL HEALTH CONDITIONS

Many people with MSK conditions want to work, but they need the right support.

- One in three employees with long-term conditions have not discussed it with their employer.⁵⁵
- One in six fit notes* issued to patients by GPs in England in 2017-18 were for MSK conditions, second to mental health and behavioural disorders.⁵⁶
- 43.8% of fit note episodes for MSK conditions last 5 or more weeks.⁵⁶
- The primary health cause for around one in eight** Employment and Support Allowance (ESA) claimants in Great Britain are MSK conditions.⁵⁷

WORK

23.5% (6,530) of people receiving Access to Work to support them to be in work in 2017-18 in the UK*** had a MSK problem, but many more could benefit.⁵⁸



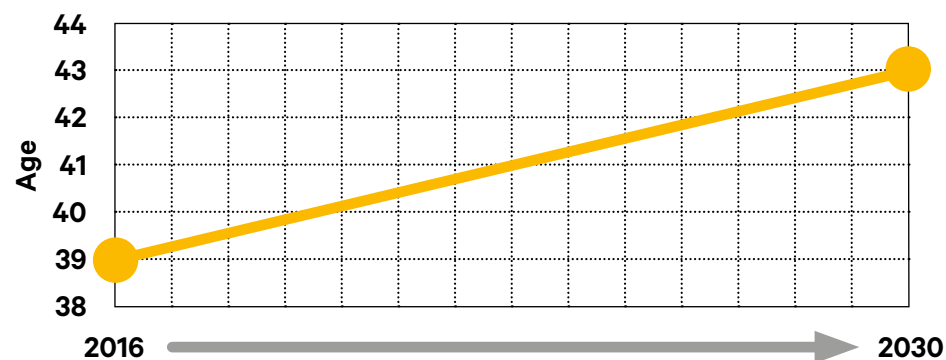
*with a known diagnosis

**excluding Northern Ireland

***calculated average for 2018

The prevalence of MSK conditions in the workforce is set to increase as the workforce is projected to get older, with the average age increasing from:

39 IN 2016 TO 43 IN 2030.⁶⁰



BY 2030, 40% OF THE WORKING AGE POPULATION WILL HAVE A LONG-TERM CONDITION.⁶⁰

HEALTH AND CARE SERVICES

People with MSK conditions are frequent users of primary, secondary, community based, and social services.

ONE IN FIVE

people consult a GP about an MSK problem in England.⁶¹



6 in 10 (58%) patients live with multimorbidity, but account for 8 in 10 (78%) GP consultations in England.⁶²



MSK conditions are one of the most commonly recorded diagnoses for hospital admissions in England in 2017-18.⁶³

1.31 million admissions to consultant care. **7.9%** of all admissions.



113,869 hip replacements* carried out in UK in 2017.^{31, 64}

120,581 knee replacements* carried out in the UK in 2017.^{31, 64}

* primary and revision



Osteoarthritis is the primary cause of around **90%** and **98%** of primary hip and knee replacements in the UK in 2017.^{31, 64}



Around **75,000** hip fractures occur annually in the UK.^{65, 66}

The incidence is projected to increase by **34%** in 2020, with an associated increase in annual expenditure.⁶⁷

The range and quality of services generally offered around the UK are variable

- Fracture Liaison Services (FLS) reduce the risk of subsequent fractures by up to 50% in people with fragility fractures.⁶⁸ However, it is estimated that only 55% of the UK population has access to an FLS.⁶⁹
- Only 34% of people in England with arthritis or ongoing problems with back or joints said they had a conversation with a healthcare professional from their GP practice to discuss what is important to them when managing their condition.⁷⁰
- In 2017-18 the average percentage of patients seen within 18 weeks of referral for Trauma and Orthopaedics surgery (this includes hip and knee replacements) in England was 85.6%, well below the 92% waiting time target.⁷¹
- For quarter ending 31 December 2018, only 44.7% of the 82,942 patients who had a first clinical appointment with an allied health professional MSK service in Scotland, were seen within 4 weeks, well below the 90% target.⁷²

£195.3M

Approximately **32.2 million** prescriptions (-4.0% since 2016) were dispensed for MSK and joint diseases in England in 2017, costing approximately **£195.3 million** (-5.1% since 2016).⁷³



ECONOMY

The combined costs from worklessness and sickness absence in the UK amount to around £100 billion annually.⁵² Musculoskeletal ill health results in significant costs for individuals, employers, the health service, and the wider economy.

Conditions such as back pain account for around 40% of all sickness absence in the NHS and costs around £400 million per year.⁷⁵ Back pain costs the UK economy an estimated £1.6 billion in direct and £10 billion in indirect costs* in 2000.⁷⁷

Treating the two most common forms of arthritis-osteoarthritis and rheumatoid arthritis is estimated to have cost the economy £10.2 billion in direct costs** to the NHS and wider healthcare system in 2017. Cumulatively the healthcare cost will reach £118.6 billion over the next decade.⁷⁶

MUSCULOSKELETAL CONDITIONS

account for the third largest area of NHS programme spending at £4.7 billion in 2013-14.⁷⁴



- The hospital costs of hip fracture alone are estimated at £1.1 billion per year in the UK.⁷⁸
- The total work-related costs of ankylosing spondylitis (AS) due to early retirement, absenteeism and presenteeism is estimated to be at £11,943 per person with ankylosing spondylitis per year.⁷⁹

Many people with MSK conditions rely on welfare benefits to cover the extra costs resulting from their condition, however many are not aware of these.



- The cost of working days lost due to osteoarthritis and rheumatoid arthritis was estimated at £2.58 billion in 2017 rising to £3.43 billion by 2030.⁷⁶
- Half (51%) of gross local authority expenditure on adult social care is on people over 65 years, of which a substantial number will have a musculoskeletal condition.⁸¹
- Around 4 in 10 people*** in receipt of or entitled to Attendance Allowance in GB are recorded with an MSK condition as their primary disability condition.⁸²
- Around a third of people*** receiving Personal Independence Payment (PIP) in GB are recorded with an MSK condition as their primary disability condition.⁸³
- Nearly three out of ten (27%) people with arthritis are not aware of the welfare benefits they are entitled to.⁴⁹

*This includes direct costs (NHS healthcare, community care and private services) and indirect costs (work loss, absenteeism, reduced productivity and informal care).

**This includes direct costs (NHS healthcare and other medical costs (i.e. prescriptions, home care)).

***calculated average for 2018

FOR EVERY £1 INVESTED...

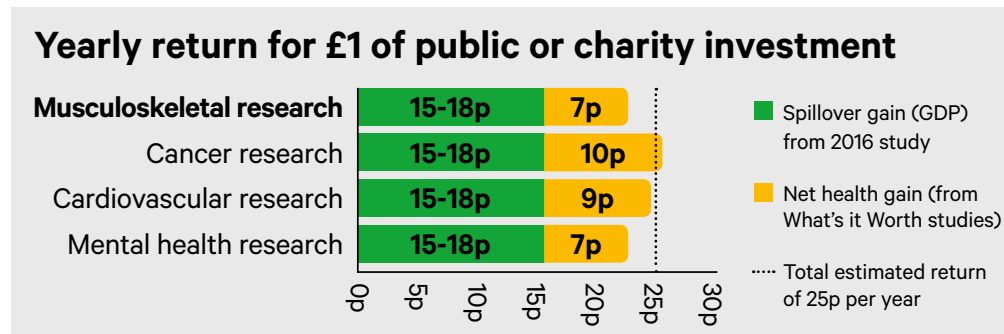
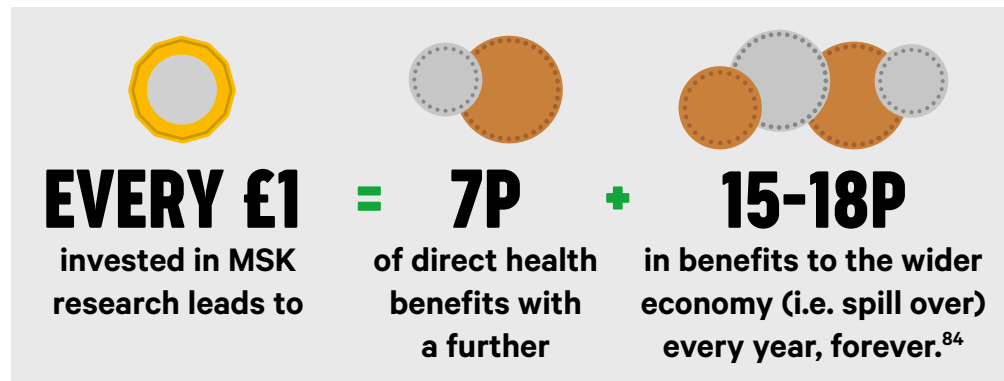
Public Health England's return on Investment (ROI) tool for cost-effective interventions for the prevention and treatment of MSK conditions.



ECONOMIC BENEFITS OF MSK RESEARCH

Every £1 invested in medical research delivers a return equivalent to around 25p every year, forever.⁸⁴

Investment into MSK research is money well spent. A new study estimating the returns generated by public and charitable investment for musculoskeletal research in the UK has found that research into MSK conditions, such as osteoarthritis, rheumatoid arthritis and back pain, not only results in improved health outcomes but also generates economic gain for the UK.



£1.6 billion of research funding in the UK was invested by medical research charities in 2017.⁸⁵ Government and charity research funding dedicated to MSK conditions remains disproportionately small compared to the disease burden attributed by conditions like arthritis and back pain.

Although MSK conditions account for 11.5% of Disability Adjusted Life Years (DALYs) in the UK in 2017 they received only 4.5%* of research funding in 2014.⁸⁶

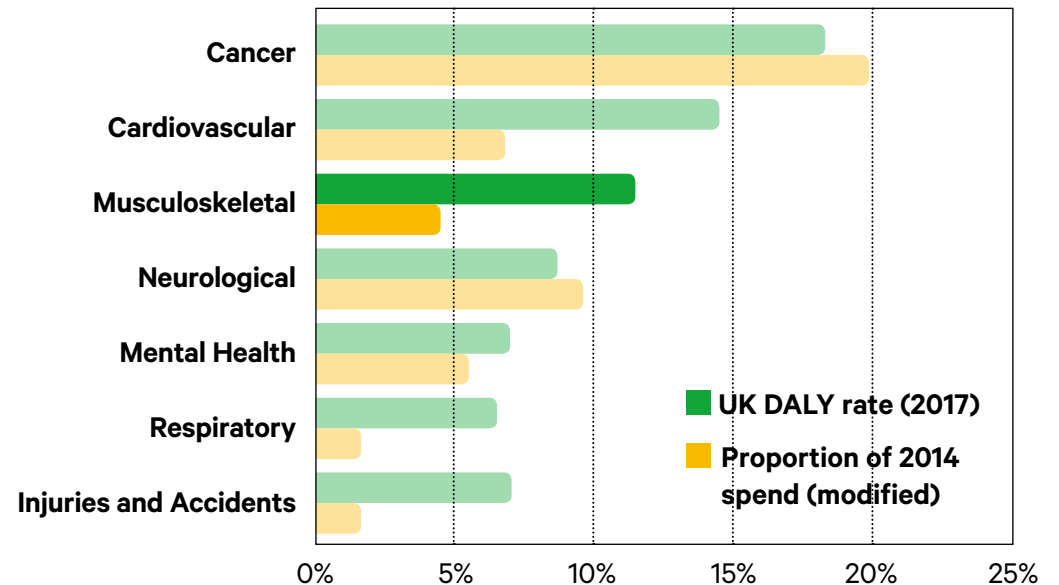


Figure 8. Proportion of Disability Adjusted Life Years (DALY) for the UK in 2017 compared to UK health research analysis 2014 combined spend by health category.

*MSK health research spend was recalculated for 2014 by Versus Arthritis to provide a more comprehensive figure of total spend (previously reported as 2.9%)

CONDITION SPECIFIC STATISTICS

Prevalence, risk factors,
comorbidities, impact



AXIAL SPONDYLOARTHRITIS

Axial spondyloarthritis (axial SpA) is an umbrella term used to describe a spectrum of long-term (chronic) inflammatory conditions primarily affecting the spine and/or sacroiliac joints, resulting in the main symptom of chronic back pain. It includes both people who have the visible changes or damage of the sacroiliac joints as seen on x-ray known as ankylosing spondylitis (AS) as well as people who have the symptoms of chronic back pain without the classic changes or damage seen on ordinary x-rays of the sacroiliac joints, non-radiographic axial spondyloarthritis.

Inflammation of the spinal joints and surrounding structures causes pain, stiffness and limitation in the flexibility of the back and causes new bone to grow at the sides of the vertebrae. Eventually the individual bones of the spine may link up and fuse. Non-radiographic axial spondyloarthritis progresses to ankylosing spondylitis at a rate of about 12% over 2 years.⁸⁷

To understand more about the causes, diagnosis and treatment of ankylosing spondylitis download our information booklet. [Read more](#)

Who is affected?

Prevalence

- Estimates suggest around 3-12 in 1,000 adults (18-80 years) in the UK primary care population have axial spondyloarthritis, depending on the classification criteria used.⁸⁸
- Approximately 5 in 1,000 adults in the UK have ankylosing spondylitis, that's around 220,000 people.^{89, 15}
- 89% of patients with axial spondyloarthritis have inflammatory back pain.⁹⁰

Common risk factors



Age

Ankylosing spondylitis usually occurs between 20 to 30 years of age, the average age of onset is 24 years. 95% of people are aged less than 45 years when their symptoms start.^{88, 91}



Sex

Approximately 50% of non-radiographic axial spondyloarthritis patients are women,^{92, 93} however, men are more likely to progress to have the structural changes of ankylosing spondylitis compared to women.⁹⁴



Genetics

Ankylosing spondylitis is more common in people with the human leukocyte antigen HLA-B27 gene, however the gene alone is not responsible for developing ankylosing spondylitis.^{95, 96}



Smoking

Smoking is associated with higher disease activity, increased structural damage on MRI and as a result lower physical functioning in people with ankylosing spondylitis.^{87, 97}

Common comorbidities

Osteoporosis and fragility fractures

People with ankylosing spondylitis are at increased risk of experiencing loss in bone mineral density (BMD) and osteoporosis, which can lead to spinal fractures.

19–62% of people with ankylosing spondylitis have decreased BMD. High rates have even been reported in patients with <10-year disease duration.⁹⁸

Up to 25% of people with ankylosing spondylitis eventually develop complete fusion of the spine which leads to substantial disability and restriction,⁹⁹ increasing risk of fractures.^{100, 101}

Depression

Depression is highly prevalent in people with axial spondyloarthritis and associated with greater disease activity and functional impairment.¹⁰²

Moderate depression (Hospital Anxiety and Depression Scale threshold ≥ 11) is found in 15% of patients, although estimates vary depending on the criteria and thresholds selected.¹⁰²

Impact on quality of life and work capacity

Disability

The most prevalent quality of life concerns in people with ankylosing spondylitis include stiffness, pain, fatigue and poor sleep.¹⁰³

Work

Withdrawal from work is three times more common in people with ankylosing spondylitis than in the general population, increasing from 5% during the first year of diagnosis to over 20% at 10 years and 30% at 20 years.^{104, 105}

3.5% of people with ankylosing spondylitis report absenteeism at work and 22% report presenteeism.⁷⁹

1-9% OF PEOPLE

with ankylosing spondylitis experience spinal fractures, thus increasing the need for surgery.⁹⁸



GOUT

Gout is a painful inflammatory condition, caused by the build-up of uric acid in the bloodstream. This is partly inherited, but lifestyle factors such as alcohol consumption, diet and obesity are major risk factors. High uric acid levels lead to crystals forming in the joints. These crystals can trigger sudden painful episodes of severe joint inflammation ('attack'). If untreated these attacks get more common, spread to involve new joints and can cause long-term cartilage and bone damage.

To understand more about the causes, diagnosis and treatment of gout, download our information booklet. [Read more](#)

Who is affected?

Prevalence

- Around 1 in 40 people (2.49%) in the UK have gout. That's equivalent to around 1.6 million people.¹⁶
- Between 1997–2012, both the prevalence and incidence (new cases) of gout increased significantly in the UK by 64% and 30% increases respectively.¹⁶
- The prevalence of gout was highest in the North East 3.11% and Wales 2.98% and lowest in Scotland 2.02% and Northern Ireland 2.15%.¹⁶
- The incidence rate of unplanned gout hospital admissions in England increased by 59% between 2006 and 2017, while unplanned rheumatoid arthritis admissions have halved over the same period.¹⁰⁶

Common risk factors



Age

3–6% of people with gout experience disease onset before 25 years of age.^{107, 108}



Sex

Gout is generally three to four times more common in men than women. Men can develop gout as early as their mid-20s however it becomes more common in women after menopause.^{16, 109}



Obesity

Obese people are twice as likely to develop gout and tend to develop it at a younger age.⁴⁰



Alcohol

Regular consumption of alcohol (predominantly beer but also spirits) has been associated with a threefold higher risk of new cases of gout among women and twofold higher risk in men, compared to those with no alcohol intake or ≤ 1 ounce/week.^{110, 111} Moderate wine consumption has not been linked to an increased risk.

Common comorbidities

54% of people with gout are expected to have one or more comorbidities within five years of first being diagnosed.¹¹²

Cardiovascular diseases

People with gout are 50% more likely to develop high blood pressure than people without gout putting them at higher risk of stroke.¹¹² Likewise, people with high blood pressure are at double the risk of developing gout compared to those without.¹¹³

The incidence of heart failure and reduced ability of the heart's ventricles to contract is two to three times higher in people with gout compared to people without gout.¹¹⁴

Kidney disease

People with gout are three times more likely to develop kidney disease than people without gout.¹¹²

Type 2 diabetes

There are 3.8 million people who have been diagnosed with diabetes in the UK in 2018. Women and men with gout are 71% and 22% more likely to develop type 2 diabetes.¹¹⁵

Liver disease

People with gout are almost two times more likely to develop liver disease than people without gout.¹¹²

Depression

People with gout are around 19% more likely to have diagnosed depression than people without gout.^{112, 116}

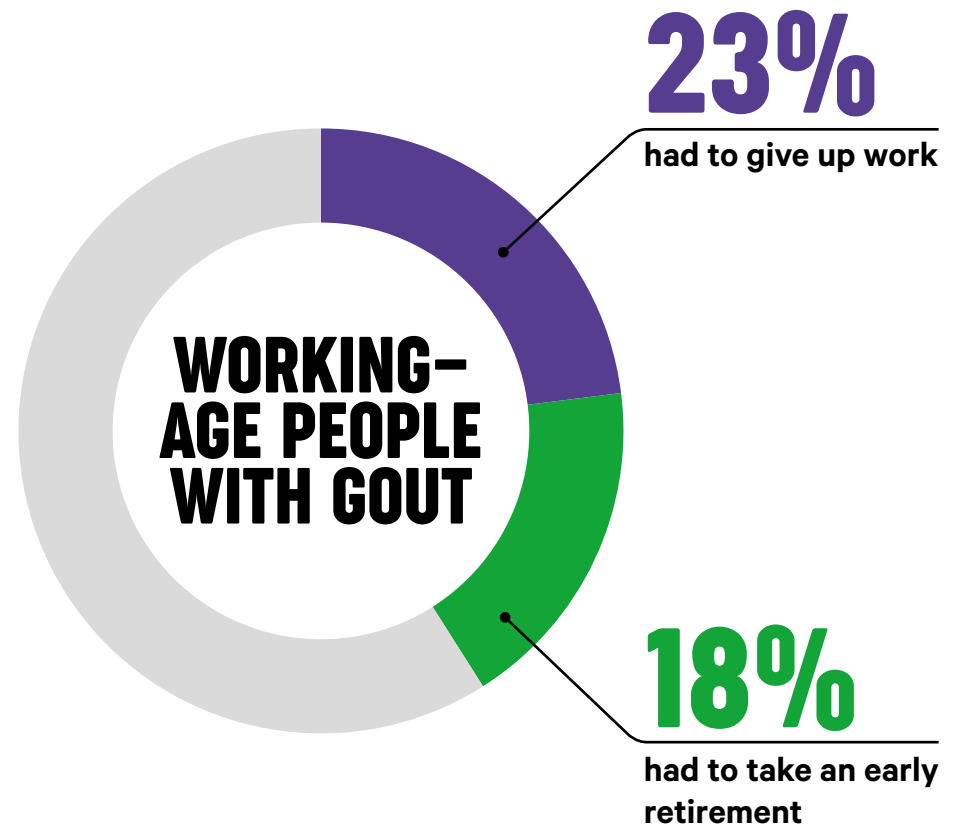
Impact on quality of life and work capacity

Work

23% of working-age people with gout say they had to give up work and 18% had taken early retirement.¹¹⁷

Quality of life

Gout is significantly associated with poor overall quality of life, even after adjusting for comorbidities.^{118, 119}



NEIL PERT

GOUT

When Neil was first diagnosed with gout at the age of 30 he admits that he didn't initially take much notice of it. About a year later he suffered a very painful attack and said that his foot ended up looking like 'a joint of meat'. Neil spent three months unable to walk and the response from his doctor was not very helpful or sympathetic. After seeing a gout specialist, Neil was put on long-term medication to prevent attacks and his symptoms have greatly improved.



JUVENILE IDIOPATHIC ARTHRITIS

Juvenile idiopathic arthritis affects children under the age of 16 and is an autoimmune disease that causes inflammation in the joints. It's one of the most common rheumatic diseases of childhood. There are six different types of juvenile idiopathic arthritis and symptoms vary between the different types. To understand more about the causes, diagnosis and treatment of juvenile idiopathic arthritis visit our website. [Read more](#)

Who is affected?

Prevalence

Around 12,000 children (1 in 1,000) under the age of 16 have juvenile idiopathic arthritis in the UK.^{14, 120}

Incidence

1 in 10,000 children are diagnosed with juvenile idiopathic arthritis in the UK each year. That's around 1,000–1,500 children.¹⁴

Common comorbidities

Eye inflammation

10–20% of children with juvenile idiopathic arthritis will develop an inflammatory eye condition called uveitis, which can cause reduced vision and blindness if not treated.^{122, 123, 121, 122}

Fragility fractures

41% and 34% of children with juvenile idiopathic arthritis have low bone mineral content and low bone mineral density respectively, putting them at increased fracture risk.¹²⁴

Common risk factors



Genetics

There is strong evidence for genetic susceptibility, but other risk factors are unknown. The probability that identical twins will both have the same genetic component fundamental to the susceptibility of juvenile idiopathic arthritis ranges between 25–40%.¹²¹

Impact on quality of life

Quality of life

Children with juvenile idiopathic arthritis have significantly lower physical well-being and psychosocial health (mental, emotional, social and spiritual well-being) compared to those without. Intensity of pain has the greatest influence on their psychosocial health.¹²⁵

Adulthood

At least one third of children with juvenile idiopathic arthritis will have ongoing active disease in adulthood.¹²⁶

Between 30% and 56% of people with juvenile idiopathic arthritis will experience severe limitations in dexterity and mobility in adulthood because of their arthritis, such as finding it very difficult or not possible to grasp small objects or walk 400 meters.¹²⁷

BEN BISSETT

JUVENILE IDIOPATHIC ARTHRITIS

Football-mad Ben was diagnosed with juvenile idiopathic arthritis at the age of 13. He has had to deal with a lot of pain and sleepless nights in his short life. But his treatment and the care he's received from those around him, has meant he's been able to do well in his education and take part in sports when he is feeling up to it.



RHEUMATOID ARTHRITIS

Rheumatoid arthritis is an autoimmune disease that causes inflammation in the joints. As a result, the joint becomes painful, stiff and swollen. This inflammatory activity can ultimately cause irreversible damage. The sooner one starts treatment for rheumatoid arthritis, the more effective it's likely to be, so early diagnosis and intensive treatment is important. To understand more about the causes, diagnosis and treatment of rheumatoid arthritis, download our information booklet. [Read more](#)

Who is affected?

Prevalence

More than 430,000 adults aged over 16 years have rheumatoid arthritis in the UK.¹⁸

The Musculoskeletal Calculator estimates:¹⁸

0.84% of people aged over 16 years in **England** live with rheumatoid arthritis. That's approximately **380,000 people**.

0.78% of people aged over 18 years in **Scotland** live with rheumatoid arthritis. That's approximately **37,000 people**.

0.94% of people aged over 16 years in **Wales** live with rheumatoid arthritis in 2017. That's approximately **27,000 people**.

Do you want to know how many people have rheumatoid arthritis in your area? View the MSK Calculator data [here](#)

Common risk factors



Age

Rheumatoid arthritis affects adults of any age. Prevalence increases with age, with peak age of onset between 40–60 years and is highest at age 70 years and over.^{128, 129} Around three quarters of people with rheumatoid arthritis are of working age when they are first diagnosed.¹²⁹



Sex

Rheumatoid arthritis is two to three times more common among women than men.^{128, 129, 130}



Genetics

Rheumatoid arthritis develops because of a combination of genetic and environmental factors. The main genetic risk factor for rheumatoid arthritis is the HLA-DRB1 gene, however this gene accounts for only around one-third of the genetic susceptibility to the disease.¹³¹

Common risk factors (continued)



Smoking

Cigarette smoking significantly increases the risk of developing rheumatoid arthritis.^{132, 133} The risk of developing rheumatoid arthritis is approximately 2 times greater for men who smoke than for non-smokers and 1.3 times greater for woman who smoke than for non-smokers.¹³³ Smoking is associated with more severe rheumatoid arthritis (i.e. more active disease) and evidence shows smokers respond less well than never smokers to treatment.¹³⁴



Obesity

Being overweight or obese significantly increases the risk of developing rheumatoid arthritis.^{41, 42, 135}

Studies have shown that:

- BMI ≥ 25 kg/m² (overweight/obese) significantly increased the risk of developing rheumatoid arthritis by 15%, compared to BMI < 25 kg/m² (normal range/underweight).
- BMI ≥ 30 kg/m² (obese) significantly increased the risk of developing rheumatoid arthritis by 21% to 31% compared to having a BMI of 18.5–24.9 kg/ m² (normal range).

Common Comorbidities

Cardiovascular disease

Cardiovascular disease is the main cause of premature mortality and sudden death in patients with rheumatoid arthritis.¹³⁶ 30% of cardiovascular disease events are attributable to rheumatoid arthritis characteristics.¹³⁷ Around 1 in 20 people (6%) with rheumatoid arthritis have cardiovascular disease.^{138, 139}

The risk of heart attack is doubled for people with rheumatoid arthritis compared to the general population.¹⁴⁰ The risk of stroke is 30% higher for people with rheumatoid arthritis than the general population.¹⁴¹

Lung disease

Lung disease is a major contributor to morbidity and mortality in rheumatoid arthritis. Evidence suggests 1 in 10 people with rheumatoid arthritis will be diagnosed with interstitial lung disease over the lifetime of their disease, putting them at increased risk of early death.^{142, 143}

Osteoporosis & fragility fractures

Rheumatoid arthritis itself, along with reduced mobility and steroids used to treat rheumatoid arthritis, increase the risk of developing osteoporosis and falls.¹⁴⁴

The rate of osteoporosis can be up to twice as high among rheumatoid arthritis patients compared to the general population.¹⁴⁵

AROUND 36%

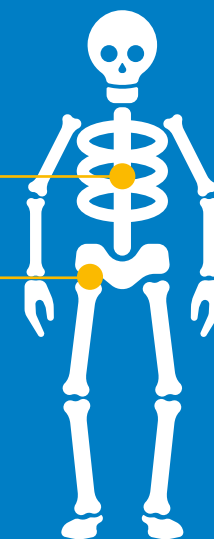
of people with rheumatoid arthritis aged over 18 report falling at least once annually.¹⁴⁶

People with rheumatoid arthritis have

2.4 TIMES the risk of vertebral fracture &

2 TIMES the risk of hip fracture,

compared to those without a history of rheumatoid arthritis.¹⁴⁷



Impact on quality of life and work capacity

Mortality

People with rheumatoid arthritis have an increased risk of death compared to the general population with estimates ranging from 15% to 46% increased risk.^{148, 149}

31% of early death from rheumatoid arthritis is due to cardiovascular disease, followed by pulmonary problems (including respiratory infection and lung cancer) responsible for 29% of all deaths.¹⁴³

Depression

Around 1 in 6 people (16.8%) with rheumatoid arthritis have major depressive disorder.⁴⁶ Depression in rheumatoid arthritis patients is associated with increased levels of pain and functional disability.¹⁵⁰ A 10% reduction in the ability to perform activities important to an individual with rheumatoid arthritis may be followed by a sevenfold increase in depression over the subsequent year.¹⁵⁰

Work

Attitudes of employers and colleagues can have a great impact on the ability of someone with rheumatoid arthritis to remain in work. 40% of survey participants stated that their employers did not understand the disease and that help that was not available for both employers and employee.¹⁵¹

Physical inactivity

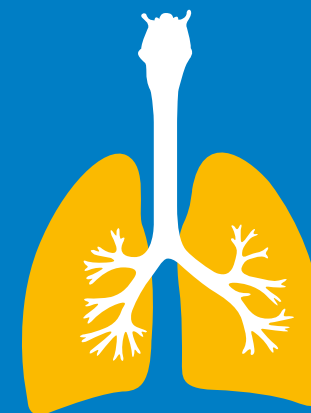
Approximately 68% of rheumatoid arthritis patients in the UK are physically inactive. Low physical activity in patients with rheumatoid arthritis becomes a vicious cycle of disease progression and increased pain, thus affecting both physical and mental health.¹⁵²

31% OF EARLY DEATH
from rheumatoid arthritis is
due to cardiovascular disease



followed by pulmonary
problems (including
respiratory infection
and lung cancer)
responsible for

29% OF ALL DEATHS



PHIL KNOX

RHEUMATOID ARTHRITIS

Phil was diagnosed with rheumatoid arthritis in 2006, while living in South London and co-running a charity video production company. At the time he had an active lifestyle, with his hobbies including badminton, sailing and skiing. His initial symptoms were swelling on one finger, then severe joint pain in his hands and wrists. Phil says his hobbies have definitely been impacted by having arthritis, but finds that if he plans ahead and leaves more time to do activities, he can often manage.



OSTEOARTHRITIS

Osteoarthritis is a condition in which the joints of the body become damaged, stop moving freely and become painful. Osteoarthritis results from a combination of the breakdown of the joint and the body's attempted repair processes. Pain is the main symptom of osteoarthritis and can have a devastating impact on people's lives. The knee is the most common site in the body for osteoarthritis, followed by the hip and hands/wrists. To understand more about the causes, diagnosis and treatment of osteoarthritis, download our information booklet. [Read more](#)

Who is affected?

Prevalence

Around 8.75 million people aged 45 years and over (33%) in the UK have sought treatment for osteoarthritis.¹⁷

Common risk factors



Age

The risk of developing osteoarthritis increases with age. A third of women and almost a quarter of men between 45 and 64 have sought treatment for osteoarthritis, this rises to almost half of people aged 75 and over.¹⁷



Sex

The prevalence of osteoarthritis is generally higher in women than men. The difference is most apparent for hand and knee osteoarthritis and among people over 50 years of age.¹⁵³ Women accounted for roughly 60% of hip and knee replacement operations in England, Wales and Northern Ireland in 2017 over 90% of whom are due to osteoarthritis.³¹

The Musculoskeletal Calculator estimates:¹⁸

18.2% of people aged over 45 years in **England** have osteoarthritis of the knee. That's 4.11 million people, 1.4 million of whom have severe knee osteoarthritis.

10.9% of people aged over 45 years in **England** have osteoarthritis of the hip. That's 2.46 million people, 726,000 of whom have severe hip osteoarthritis.

16.6% of people aged over 45 years in **Scotland** have osteoarthritis of the knee. That's 420,000 people, 104,000 of whom have severe knee osteoarthritis.

10.1% of people aged over 45 years in **Scotland** have osteoarthritis of the hip. That's 256,000 people, 64,000 of whom have severe hip osteoarthritis.

17.2% of people aged over 45 years in **Wales** have osteoarthritis of the knee. That's 275,000 people, 71,000 of whom have severe knee osteoarthritis.

11.2% of people aged over 45 years in **Wales** have osteoarthritis of the hip. That's 180,000 people, 48,000 of whom have severe hip osteoarthritis.

Do you want to know how many people have osteoarthritis in your area? View the MSK Calculator data [here](#)

Common risk factors



Obesity

The risk of developing osteoarthritis throughout life increases with rising BMI.¹⁵⁴ People who are overweight or obese are approximately 2.5 and 4.6 times more likely to develop knee osteoarthritis than those of normal body weight.^{155, 156} The average BMI of hip and knee replacement patients in England, Wales, and Northern Ireland in 2017 was 28.8 (overweight) and 31.0 (obese) respectively.³¹



Occupation

Knee osteoarthritis is more frequently observed in people with occupations that require squatting and kneeling, hip osteoarthritis is associated with prolonged lifting and standing. Hand osteoarthritis is more frequent in people with occupations requiring increased manual dexterity.¹⁵⁷



Joint abnormalities

People with abnormal hip shape caused by developmental problems, have greatly increased risk of developing osteoarthritis. Abnormal hip shape accounts for nearly 1 in 10 primary hip replacements in adults, rising to nearly 1 in 3 hip replacements in people under the age of 60 years.¹⁵⁸



Genetic factors

Genetic factors account for 60% of hand and hip osteoarthritis and 40% of knee osteoarthritis.¹⁵⁹

Common Comorbidities

Cardiovascular disease

Women and men over 65 years of age who have osteoarthritis are at 17% and 15% increased risk of hospitalisation for cardiovascular disease.¹⁶⁰

Depression

Around 20% of people with osteoarthritis experience symptoms of depression and anxiety.¹⁶¹

Impact on quality of life and work capacity

Pain

Nearly three quarters of people with osteoarthritis report some form of constant pain, with 1 in 8 describing their pain as often unbearable.¹⁶² Having more than one comorbidity contributes to worse pain and performance-based physical function in people with knee and/or hip osteoarthritis.¹⁶³

Joint replacements

Osteoarthritis is the primary cause of around 90% and 98% of primary hip and knee replacements in the UK in 2017.^{31, 64} After joint replacement surgery only 21.1% of knee replacement and 16.6% of hip replacement patients in England reported moderate or severe pain in the past four weeks, compared to 94.6% and 93.9% of patients before they received surgery.¹⁶⁴

Work

A third of people with osteoarthritis retire early, give up work or reduce the hours they work because of their condition.¹⁷

CHARLES ROBINSON

OSTEOARTHRITIS

Charles has lived with osteoarthritis most of his adult life, having had problems with tendons in his legs since childhood. Over the past 10 years he has had both knees and his left hip replaced. Charles credits swimming with playing a vital role in helping him live well with arthritis.



BACK PAIN

Back pain is a common condition often caused by a simple muscle, tendon or ligament strain and not usually by a serious problem. Back pain can be acute, where the pain starts quickly but then reduces after a few days or weeks, or chronic (severe), where pain might last on and off for several weeks or even months and years.

To understand more about the causes, diagnosis and treatment of back pain, download our information booklet. [Read more](#)

Who is affected?

Prevalence

Back pain affects around one third of the UK adult population at some point each year.^{165, 166} Between 1 in 4 and 1 in 7 young people have long-term low back pain.^{168, 169}

The Musculoskeletal Calculator estimates:¹⁸

16.9% of people in **England** have back pain. That's 9.11 million people, 5.5 million of whom have severe back pain.

19.1% of people in **Scotland** have back pain. That's 910,000 people, 564,000 of whom have severe back pain.

18.3% of people in **Wales** have back pain. That's 523,000 people, 299,000 of whom have severe back pain.

Do you want to know how many people have osteoarthritis in your area? View the MSK Calculator data [here](#)

20%
of all musculoskeletal consultations
in England are related to the back



Common risk factors



Obesity

People who are obese are between 1.5 and 2.5 times more likely to have back pain, rising to four times more likely among those who are highly obese.^{38,39}



Smoking

The prevalence of low back pain is approximately 50% higher in daily smokers compared to non-smokers.^{170,171}



Deprivation

People aged 45–64 years of age (working age) in the most deprived areas of England are almost twice as likely to report back pain (17.7%) as those from the least deprived areas (9.1%).³



Depression and anxiety

Musculoskeletal conditions and mental health have a complex and reciprocal relationship, each exacerbating the other.

Living with back pain can lead to depression and anxiety. Conversely, psychological distress and depression worsen pain.

The odds of back pain in people with symptoms of depression have been shown to be 50% higher than in those without symptoms of depression.¹⁷²

Common comorbidities

Fibromyalgia

Fibromyalgia has been reported to occur in 25% to 40% of adult chronic low back pain patients.¹⁷³

Depression, anxiety, and sleep disorders

People with chronic low back pain have been shown to have a significantly higher frequency neuropathic pain conditions and common sequelae of pain compared to people without low back pain.

People with chronic low back pain more than twice as likely to report depression (13.0%) and anxiety (8.0%) and sleep disorders (10.0%) compared to those without low back pain (6.1%, 3.4%, and 3.4% respectively).¹⁷⁴

Impact on quality of life and work capacity

Disability

Low back pain remains the top cause of years lived with disability (YLDs) in the UK in 2017.¹

Low back pain patients generally stop seeking medical attention within three months, however 60% to 80% of people still report pain or disability a year later and up to 40% of those who have taken time off work will have future episodes of work absence.^{175,176}

Work limitation

Back pain is the second most common cause of short-term absences after minor illnesses (such as colds, flu and sickness).¹⁷⁷

68.3% of people return to work one month after an episode of back pain, rising to 85.6% at one to six months and 93.3% at more than six months.¹⁷⁸

HELEDD HALL

BACK PAIN

Heledd's back pain started after she had her children in her early 30s. The keen runner found that doing specific exercises for her back as advised by a physiotherapist helped clear it up. As a GP herself, Heledd sees many people with back pain and her recent experience really helps her offer great advice, support and an empathetic ear.



FIBROMYALGIA

Fibromyalgia is a long-term (chronic) condition of widespread body pain and fatigue, associated with multiple other physical symptoms as well as cognitive symptoms such as poor memory and concentration. Fibromyalgia in itself doesn't cause any lasting damage to the body's tissues. Low physical activity levels – because of pain and fatigue – cause muscle weakening (deconditioning) leading to a vicious cycle of worsening pain and fatigue. To understand more about the causes, diagnosis and treatment of fibromyalgia, download our information booklet. [Read more](#)

Who is affected?

Prevalence

Studies estimate between 1.7 to 2.9 million adults in the UK are affected by Fibromyalgia depending on the criteria used. That's up to around 1 in every 20 people (5.4%).^{19, 179}

Comorbidities

Depression and anxiety

Depression and anxiety are more prevalent in people with fibromyalgia than individuals without.^{184, 185, 186, 187} Lifetime prevalence of depression and anxiety in people with fibromyalgia go up to 70% and 60%, respectively.^{184, 188}

High levels of depression and anxiety in people with fibromyalgia are associated with more physical symptoms and poorer functioning than lower levels.¹⁸⁹

Irritable Bowel Syndrome

Fibromyalgia is associated with a 1.54-fold increased risk for irritable bowel syndrome.¹⁹⁰

Common risk factors



Age

Fibromyalgia prevalence increases with age, reaching a peak around 70 to 75 years.¹⁹



Gender

Fibromyalgia is more common in women than in men at every age.¹⁹



Genetics

Fibromyalgia develops because of a combination of biological, psychological and social factors. Family studies have identified a link between genetic markers, supporting the genetic background of the disease, however key hereditary factors have not yet been identified.¹⁸⁰



Psychological factors

Studies have shown a significant association between fibromyalgia syndrome and self-reported physical and sexual abuse in childhood and adulthood.¹⁸¹



Musculoskeletal conditions

Fibromyalgia is significantly more common in people with chronic back pain and rheumatic diseases such as rheumatoid arthritis, psoriatic arthritis, spondyloarthritis.^{182, 183}

OSTEOPOROSIS AND FRAGILITY FRACTURES

Osteoporosis is a bone thinning disease causing bones to become weak. Everyone has some degree of bone loss as we get older, but Osteoporosis is a condition which causes bones to weaken and become more fragile. When bone is affected by osteoporosis, the holes in the bone's normal honeycomb structure become larger and the overall density is lower, which is why the bone is more likely to fracture. Fracture is a technical word for a break in a bone. A fragility fracture is a fracture which results from a force that would not ordinarily result in a fracture, such as a fall from standing height or less.

To understand more about the causes, diagnosis and treatment of osteoporosis & fragility fractures, download our information booklet. [Read more](#)

Who is affected?

Prevalence

More than 3 million people in the UK are estimated to have osteoporosis.²⁰ Each year, almost a third of people aged over 65 years fall at least once and there are an estimated 500,000 fragility fractures in the UK.²¹

In England and Wales, around 180,000 of the fractures presenting each year are the result of osteoporosis.¹⁹¹ In 2017, 66,000 people aged 60 or older presented to hospital with a hip fracture in England, Wales and Northern Ireland.⁶⁵

Vertebral fractures are the most common osteoporotic fracture. Prevalence studies suggest that 12% of women aged 50–79 have clinically identified vertebral fractures, the majority of which will be osteoporotic in origin – increasing to 20% in women over 80 years of age. However, currently up to 70% of vertebral fractures remain undiagnosed.¹⁹²

Common risk factors



Age

Prevalence of osteoporosis increases markedly with age, from 5% at 50 years to over 30% at 80 years.²⁰



Sex

One in two women and one in five men over the age of 50 are expected to break a bone during their lifetime.¹⁹⁴



Genetics

Parental history of fracture is associated with an increased risk of fracture, independent of bone mineral density.¹⁹⁴



Menopause

After the onset of menopause, women can lose an average of 2.5% of their bone per year for the first five years, due to the decrease in oestrogen production, putting them at increased risk of developing osteoporosis.¹⁹⁵



Smoking

Smoking is associated with low bone mineral density osteoporotic fractures.¹⁹⁶ People who smoke are at 25% increased fracture risk compared to those who had never smoked.¹⁹⁷



Previous fracture

After a first fracture the risk of fracturing again is increased by two to threefold.^{198, 199}

Common risk factors



Alcohol

People who consume more than two units of alcohol per day are associated with higher risk of hip fracture compared with those who don't drink.²⁰⁰



Low BMI

People with a BMI of less than 18.5 kg/m² are at increased fracture risk.^{201, 202}



Diabetes

People with type 1 diabetes have a six times greater risk of hip fracture compared to those without.^{203, 204}



Chronic inflammatory bowel disease

Chronic inflammatory bowel disease (IBD) has been shown to be associated with an increased risk of fractures.²⁰⁵



Coeliac disease

Patients with coeliac disease are at a higher risk of fractures compared to the general population.²⁰⁷



Hyperthyroidism

Older men with (subclinical) hyperthyroidism are at increased risk for hip fracture.^{205, 208}



Rheumatoid arthritis

The rate of osteoporosis can be up to twice as high among rheumatoid arthritis patients compared to the general population.¹⁴⁵ People with rheumatoid arthritis are at two times the risk of hip fracture and 2.4 times the risk of vertebral fracture, compared to those without.²⁰⁹

Common comorbidities

Two thirds of people with osteoporosis report having other long-term conditions, the most common of which are arthritis, cancer, coeliac disease and asthma.²¹⁰ A study has shown adults aged over 50 years with osteoporosis showed more than twofold increased odds for arthrosis, arthritis, chronic low back pain, chronic heart failure and depression, respectively.²¹¹

Impact on quality of life and work

Mortality

A month after suffering a hip fracture, 1 in 15 people (6.7%) had died in 2017 and over half (67.5%) returned home by 120 days.⁶⁵ One in four people (28.7%) die within a year of suffering a hip fracture.²¹²

Pain

One in three people who have long-term pain from fractures describe it as severe or unbearable.²¹⁰

Disability

Research has found that 43% of people who were previously independent are unable to walk independently in the year after a hip fracture.²¹³

Work

Although fragility fractures mostly affect people in later life, an estimated 20% of fractures occur at pre-retirement age. In 2017, it is estimated that more than 2.5 million sick days were taken in the UK as a result of fragility fractures.²¹⁴

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