

# NOT JUST 'A TOUCH OF ARTHRITIS'

**Tackling osteoarthritis –  
the UK's leading cause of  
pain and disability**



**VERSUS  
ARTHRITIS**

About Versus Arthritis: There are over 20 million people living with a musculoskeletal (MSK) condition like arthritis in the UK. That's more than one in four people, with half of those living in pain every single day. The impact is huge as the condition intrudes on everyday life – affecting the ability to work, care for a family, to move free from pain and live independently. Yet arthritis is often dismissed as an inevitable part of ageing or shrugged off as 'just a bit of arthritis'. We don't think this is OK. Versus Arthritis is here to change that.

Find out more at: [www.versusarthritis.org](http://www.versusarthritis.org)

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# FOREWORD

**ELLEN MILLER, ACTING CHIEF EXECUTIVE  
OFFICER, VERSUS ARTHRITIS**

Arthritis and related conditions of the muscles, bones and joints affect more than 20 million people across the UK,<sup>1</sup> of whom 8.75 million people over the age of 45 have sought treatment for osteoarthritis.<sup>2</sup>

Having osteoarthritis can have a dramatic impact on people's lives, from people experiencing severe pain and reduced mobility, to impacting on people's ability to work, sleep, travel, socialise and enjoy their lives. People with osteoarthritis also have significant unmet needs when it comes to their health and wellbeing. This condition, and other musculoskeletal (MSK) conditions like it, reduce the quality of life of millions of people every day – but it doesn't have to be this way. Osteoarthritis also affects population groups differently: tackling health inequalities is central to delivering better care and support for *everyone* with osteoarthritis, including the associated chronic pain so many people experience every day.

In this report we want to look forward to what we can do to turn the tide on osteoarthritis and the impact it has on people's lives. Through analysis of data, from a survey of people with osteoarthritis commissioned and funded by Pfizer, and a roundtable event held by Versus Arthritis in September 2021 – in which we brought together key stakeholders to discuss how we might tackle these challenges – we are presenting here new ways of thinking about osteoarthritis and potential solutions to improving care, treatment and support.

At Versus Arthritis, we have already pushed back against the impact of arthritis. We have challenged myths such as osteoarthritis being an 'inevitable part of ageing' when in fact there is much that can be done to improve people's quality of life and enable them to be in control of their condition. We have recognised that people with osteoarthritis often have many needs – stretching across the physical, psychological and social – and that meeting only some of those needs does not enable people to live well. We are also welcoming and championing innovation, whether this be better digital tools to support self-management, through to driving forward with research.

Alongside this, personalised care is critical. There is an important need for new models of care, with treatment that is more joined up and better coordinated across the system. Such an approach makes greater use of opportunities for personalised, digital support and includes community initiatives around physical activity and pain support. They all present opportunities to provide people with osteoarthritis with personalised, inclusive, holistic care, where *they* are in the driving seat.

We recognise it is easy to say we need personalised care, innovation and prevention, but it is difficult to do in practice. It requires us to look again at the systems, processes and support that are currently in place and how they work in practice, as well as at what new initiatives might be able to contribute. This report, and the recommendations in it, represent one step in that process and we will continue to work with decision-makers to ensure that we make change happen.

I would like to extend our sincere thanks to our roundtable attendees, whose expertise and personal experiences helped to shape the content of this report and its recommendations.

# INTRODUCTION

## About this report

This report draws on the findings of a survey of people with osteoarthritis commissioned and funded by Pfizer in late 2020. Data used for the analysis in this publication and financial support for this publication were provided as a donation from Pfizer Limited. This report, firstly, seeks to present the key findings of people's experiences – both in terms of the substantial impact osteoarthritis has on their lives and their experiences of care, treatment and support.

The report then explores the key topics discussed at a high-level Versus Arthritis roundtable on osteoarthritis held in September 2021. This event explored the survey results and how health and care systems can deliver improved, personalised care for people living with osteoarthritis. It also discussed the research agenda, the need to stimulate innovation and the importance of public health.

# We can do more to enable people with osteoarthritis to live well with their condition.

Every person's experience of osteoarthritis is different, from the joints affected to the severity and impact of their condition, and the circumstances in which they are trying to manage their osteoarthritis alongside the competing priorities in their lives.

For many people, osteoarthritis can quickly expand beyond being a discrete medical issue to it encroaching on almost every aspect of their lives. It can affect their relationships, their sleep and even their work. This means that a holistic, person-centred approach is key to ensuring that people with osteoarthritis feel empowered and supported to manage their condition and the impact it has on their lives in ways that work best for them. It also clearly needs to be reflected in the care, treatment and support offered to people with osteoarthritis.

In this report we will explore and make policy recommendations in three key areas:

- **Personalisation:** Personalised care means people have choice and control over the way their care is planned and delivered. It is based on 'what matters' to them and their individual strengths and needs.<sup>3</sup> Personalised care is only possible when people are empowered and enabled to access and utilise the support available to them. Health and care systems should be tailored to their needs and people with osteoarthritis should be partners in the decision-making process. We need an inclusive system that works for everyone, regardless of their personal characteristics or circumstances. No-one should be left out.
- **Innovation:** We need more effective and efficient ways to deliver care and support. The current system isn't working well enough. New approaches are needed to make the resources available work better for people, for example making better use of new models of care, new technologies, digital support and advances in research.
- **Prevention:** This should be at the heart of our approach. While some cases of osteoarthritis are genetic, it can also be lifestyle related: the main modifiable risk factors contributing to osteoarthritis are physical inactivity and obesity,

which can be linked to wider factors such as deprivation. It is therefore important that we pursue a public health approach to reducing the impact of osteoarthritis on individuals and society. Being physically active remains one of the best things all of us can do for our joints, bones and muscles at every stage of life, to keep them strong and to reduce the risk of pain and fragility later in life.

## Survey of people with osteoarthritis

An online survey of 1,041 people who self-identified as having osteoarthritis, was carried out in October/November 2020. Respondents were screened for validity in-survey and responses were checked for accuracy, data quality and consistency.

The survey sample reflects the broad gender breakdown of people with osteoarthritis in the UK (60% women; 40% men), but there was an under-representation of people from ethnic minority backgrounds (7% in the survey as opposed to around 15% in the UK population) and an over-representation of people in younger age groups (24% of people responding were under 44, higher than the overall prevalence of osteoarthritis in that age range). It is likely that this is due to the online survey methodology used. The representation of the data in this report has not been reweighted.

89% of the survey respondents reported having been formally assessed and diagnosed by a healthcare professional as having osteoarthritis, while 11% of those sampled self-reported having osteoarthritis, but said they had not received a formal assessment or diagnosis

The preliminary results and data analysis were undertaken by the agency Portland Communications in December 2020.

# **OSTEOARTHRITIS**

**A CONDITION WITH A FAR-REACHING  
IMPACT ON PEOPLE'S LIVES**



## What is osteoarthritis?

Osteoarthritis involves a significant, and often progressive, deterioration in one or more joints of the body. It is most likely to affect the weight-bearing joints such as the hips and knees, although other joints can be affected in the feet, hands, elbows, shoulders, neck and spine. The knee is the most common site in the body for osteoarthritis to develop, followed by the hip and hands/wrists.<sup>4</sup>

Whilst the key symptoms of osteoarthritis are pain, swelling and difficulty in moving a joint or joints, a person's mobility, dexterity, independence, and quality of life can all be affected.

## Prevalence of osteoarthritis

Osteoarthritis is a common condition, with an estimated 8.75 million people over the age of 45 having sought treatment for osteoarthritis in the UK.<sup>5</sup> It is also a leading cause of pain and disability in the UK.<sup>6</sup>

The risk of developing osteoarthritis increases in middle-age and beyond, and its prevalence is more common amongst women than men. For example, in the UK 5.04 million women (15.4%) and 3.46 million men (11.2%) have osteoarthritis.<sup>7</sup> The prevalence of osteoarthritis is also expected to grow as the population ages: it is estimated that 17 million people will have osteoarthritis by 2030.<sup>8</sup>

Osteoarthritis is commonly present in those living with another health condition. For example, two thirds of people with osteoarthritis also have at least one other health condition,<sup>9</sup> while one fifth of people with osteoarthritis experience symptoms of depression and anxiety.<sup>10</sup> For many people living with osteoarthritis, the breadth of their treatment needs isn't limited to this condition - it is just one of several things they need support with to manage effectively.

## Impact of osteoarthritis on day-to-day life

### Quality of life

Osteoarthritis can have a far-reaching impact on someone's day-to-day life. The condition can cause severe pain and difficulty with sleeping, in addition to problems with mobility and dexterity. As a result, it can also affect a person's mental health and wellbeing.<sup>11</sup> The pain and joint stiffness associated with osteoarthritis can affect all areas of a person's life, from their social and work life to their ability to travel and pursue hobbies and interests. For example, in the 2020 survey of people with osteoarthritis, more than six out of 10 (64%) people with osteoarthritis reported that the condition had a negative impact on their sleep, while a similar proportion (62%) reported it had a negative impact on their overall enjoyment of life.

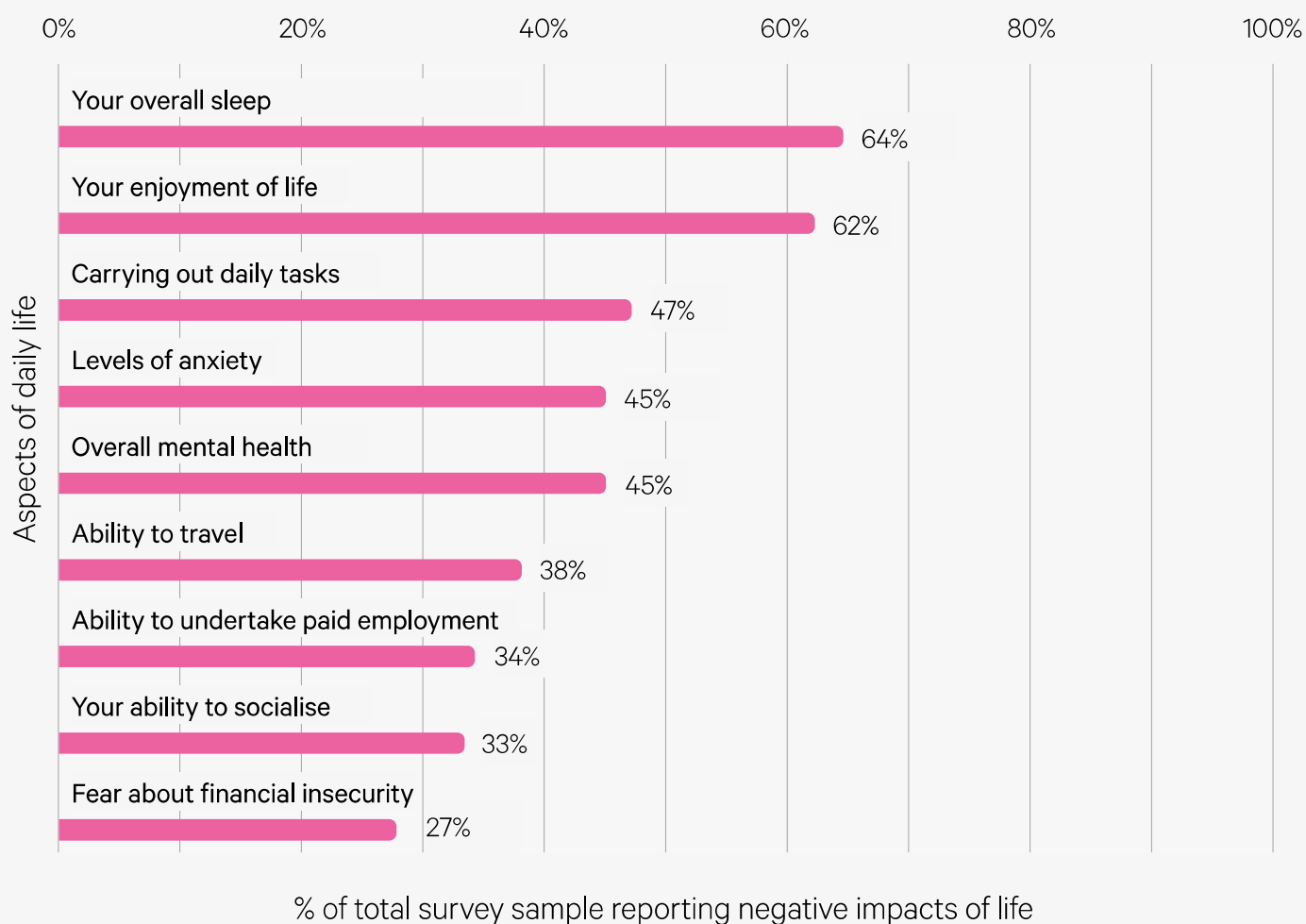


**My condition affects all of my life – my home life, my social life, my work life. It is not just my physical health which is affected by arthritis, but my mental and emotional health.**



Ceri, person with lived experience of osteoarthritis

**Figure 1.**  
**Negative impacts of osteoarthritis reported on different aspects of daily life**



BASE: Total self-reporting osteoarthritis, n=1,041

## Pain

Pain is a well-known part of living with osteoarthritis. The impact of living with persistent pain can be debilitating and often makes simple acts of daily living more difficult, such as working, socialising and sleeping. Versus Arthritis' recent report *Unseen, Unfair and Unequal* on living with chronic pain, also points out that the impact of chronic pain is felt unequally across society with those affected more

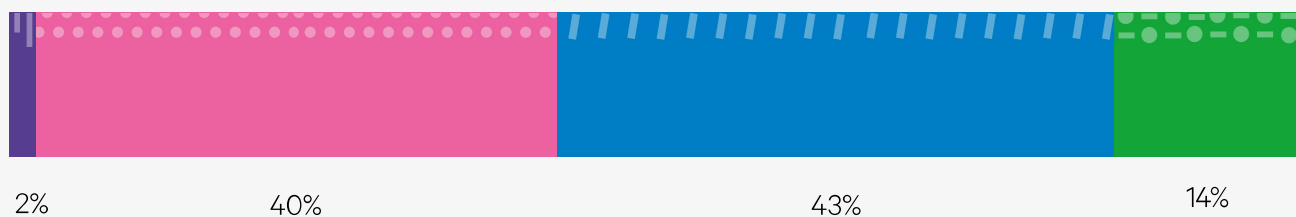
likely to be living in deprived areas, to be older and/or women, and to be from some ethnic minority communities.<sup>12</sup>

Over half (57%) of the survey respondents reported pain from their osteoarthritis as having a 'moderate' or 'severe' impact on their life. Worryingly, one in three (35%) survey respondents reported experiencing pain of a 'level 7 or above' on a scale of 0-10, every day.<sup>A</sup> This level of daily pain can cast an ongoing shadow over all areas of a person's life.

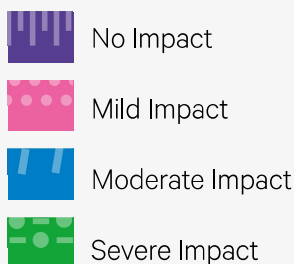
**A** 35% of respondents answered 'At least every day' to the question 'How often do you experience pain from your arthritis that you would rate as 7 or above on a scale from 0 (no pain) to 10 (pain as bad as you can imagine)?'. Base: Total survey respondents, n=1041. Survey of people with osteoarthritis. 2020. Pfizer.

**Figure 2.**  
**Extent to which pain from osteoarthritis has an impact on daily life (% of total survey sample)**

Level of pain experienced (%)



BASE: Total self-reporting osteoarthritis, n=1,041



## Work

People with osteoarthritis often find additional challenges in the workplace. Limitations caused by pain, mobility, and dexterity can make tasks such as travelling to work, standing, sitting and using a keyboard more difficult<sup>13</sup>. Most working-aged people with osteoarthritis wish to work and can do so with the appropriate support, including through flexible working arrangements.

In the survey of people with osteoarthritis, around six out of 10 people (61%) still working at the time of the survey reported that they thought they would have to, or might have to, retire early, as a result of their osteoarthritis, while two out of 10 (19%) respondents reported that they had already reduced their working hours because of their osteoarthritis; 17% of respondents said they had already retired early. Amongst early retirees, nearly

half (46%) said they had retired six or more years earlier than planned,<sup>B</sup> with potentially significant financial implications for their lives.

Furthermore, the impact of the COVID-19 pandemic and the move to home working is likely to result in more people in work experiencing musculoskeletal pain, potentially accelerating the onset of conditions such as osteoarthritis, due to lower rates of physical activity amongst home workers and a lack of access to suitable ergonomic equipment.<sup>14</sup>

In 2020, Versus Arthritis conducted a survey which found that among respondents who were UK workers, who had started to work from home during the pandemic, eight out of 10 (81%) desk workers who switched to home working had developed some type of new musculoskeletal pain in at least one area of the body since making the change to home working. Of those individuals, around two

**B** 17% of respondents answered 'Retiring early' and 19% 'Reducing working hours' to the question 'In which, if any, of the following ways has arthritis affected your working life?' This was one of several options, respondents could select from as many as they wished. Base: Total survey respondents, n=1041; 61% of respondents who were working at the time of the survey answered 'Yes' or 'Maybe' to the question 'Do you think that you will need to retire earlier due to your arthritis?'. Base: Those working at the time of the survey, n=630; 46% of respondents who reported retiring early answered 6 or greater in response to the question 'How much earlier did you retire than you planned to due to your arthritis? Please state the number of years'. Base: Those retiring early, n=177, Survey of people with osteoarthritis, 2020. Pfizer.

in 10 (23%) reported that this pain affected them either often, or all, of the time, while a similar number (22%) admitted to being less productive because of the pain.<sup>15</sup> This is supported by an analysis carried out by the Scientific Advisory Group for Emergencies (SAGE), which estimated that the burden of musculoskeletal conditions such as osteoarthritis is likely to increase in response to COVID-19.<sup>16</sup> While the guidance to work from home was an essential public health measure, an increase in musculoskeletal problems may be one of the inadvertent consequences of these restrictions, alongside the more well-reported mental health impacts.

## Mental health

Living with a painful condition such as osteoarthritis can lead to depression and anxiety.<sup>17</sup> There is a complex and reciprocal relationship between the chronic pain and poor mental health, with each tending to exacerbate the other.<sup>18</sup> Persistent pain can affect a person's mood, ability to sleep and daily routine, including their social life and hobbies, which can, in turn, affect their confidence, self-esteem and, ultimately, their overall quality of life. A loss of dexterity and mobility can also affect a person's mood, sense of wellbeing and independence.

As seen in Fig. 1, in the survey six out of 10 people (62%) reported that their osteoarthritis had a negative impact on their enjoyment of life, second only to the impact it had on their sleep. It is of concern that more than four out of 10 people (45%) reported that their osteoarthritis negatively affected both their levels of anxiety and overall mental health. People were also worried about the future: almost eight out of 10 people (78%) reported being concerned about how the pain from their arthritis would further impact on their daily life in the years to come. <sup>C</sup>

The impact on mental health was felt more keenly amongst those who reported a more severe impact of pain on their lives. Six out of 10 (60%) of those

who described the impact of their osteoarthritis as 'moderate' or 'severe' reported that their condition had a negative impact on their mental health, compared to a quarter (26%) who said it had a 'mild' or 'no impact'.

## Financial impact

Some people with osteoarthritis are spending quite a lot each month on private treatments such as physiotherapy and osteopathy. Respondents to the survey reported trying a variety of ways to manage the pain themselves:

- Four out of 10 (39%) had tried manual therapy such as massage
- A third (36%) had tried physiotherapy
- Two out of 10 (21%) practiced mindfulness / meditation
- Just over one out of 10 (13%) had tried acupuncture and a similar number Transcutaneous Electrical Nerve Stimulation (TENS) (14%)

Almost two out of 10 (19 %) of survey respondents reported spending £50 or more every month on managing their osteoarthritis, while one out of 10 (9%) reported spending over £100 each month. However, expenditure was not evenly spread across respondents. As one might expect, those with a higher household income tended to report spending more on managing their osteoarthritis each month. For example, one in three (32%) of those with household incomes over £55k a year reported that they spent over £100 a month, compared to one out of 10 of the total sample. <sup>P</sup> This is likely to exacerbate health inequalities, as those with fewer resources are less able to spend money to manage their health.

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**C** 78% of respondents answered 'Very concerned' or 'Concerned' to the question 'To what extent are you concerned about pain from arthritis impacting further on your daily life in the future?'. Base: Total respondents, n=1041. Survey of people with osteoarthritis, 2020. Pfizer.

**D** The survey contains data for total household income rather than individual income. Data is provided as ranges rather than exact figures. Survey of people with osteoarthritis, 2020. Pfizer.

Those with lower household incomes reported spending more in relative terms on managing their osteoarthritis. Those with the lowest incomes (less than £17k a year) reported spending, on average, the equivalent of 3.1% of their income on managing their osteoarthritis, whilst those with the highest household incomes in the sample (over £55K a year) reported spending an equivalent of 1.09% of their income on managing their osteoarthritis.

## Health inequalities

Whilst the wide-ranging impacts of osteoarthritis make living with the condition difficult for so many, these experiences are not equally shared amongst the population. For example, the number of people living with arthritis in the working age population (45-64 years) in the most deprived areas is around two out of 10 people (21.5%), compared to one out of 10 people (10.6%) in the least deprived areas.<sup>19</sup>

A very wide range of factors influences someone's experience of osteoarthritis and the effectiveness of the treatment and support they are able to access and make use of. As noted above, almost six out of 10 people in the survey reported that the impact of their pain was severe or moderate, but this level of pain was higher amongst those reporting low incomes.<sup>E</sup> More generally, women represent 60% of the population with osteoarthritis so they are disproportionately affected by the pain and disability it can cause.<sup>20</sup>

This is important to bear in mind when it comes to personalisation, prevention and innovation. The most effective approaches need to be able to counter the negative outcomes people experience because of other factors in their lives. Hence, it's critical to take a holistic approach which addresses each person's personal circumstances, needs, aspirations and direct and indirect barriers to accessing care and treatment.

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**E** In the survey of people with osteoarthritis a correlation can be seen between lower reported annual household income and the proportion of respondents reporting the impact of the pain from their osteoarthritis as 'severe' or 'moderate'. The differences are relatively small, but indicative and align with known links between income/wealth and health outcomes/experiences, of which there are many confounding factors. Survey of people with osteoarthritis, 2020. Pfizer.

# HEATHER'S STORY

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I have lived with osteoarthritis, mainly in my left knee, for many years but managed to work as a registered nurse until I took early retirement in my early 50s.

As I approached my 60s, I was experiencing more pain and was told by an NHS orthopaedic surgeon that my knees had enough cartilage to avoid joint replacement at that time, so I needed to use regular medication. I'm limited in what medication I can use as I react badly to so many tablets. I found a nerve blocker worked for me with little side effects, but I have now reached the maximum dose I can take, and I am experiencing some unpleasant side effects.

I have been for an X-ray this year and went for a private physio assessment after discovering my right knee now has moderate changes. This causes hip and back pain too which exercises haven't alleviated. I've found massage, particularly for the back, very helpful. But there is much uncertainty

ahead for both my husband and myself. The GPs seem to be limited in what they can offer, and the NHS consultants are just overwhelmed.

I think I will need to swap from my much-loved hillwalking to tai chi to keep the joints working. Pain relief is a huge concern for me - where or what next? The restrictions that loom for my independence and enjoyment of a rich social life impacts on my mental wellbeing as it's hard to keep positive, especially after losing at least one good year to lockdowns through the pandemic.

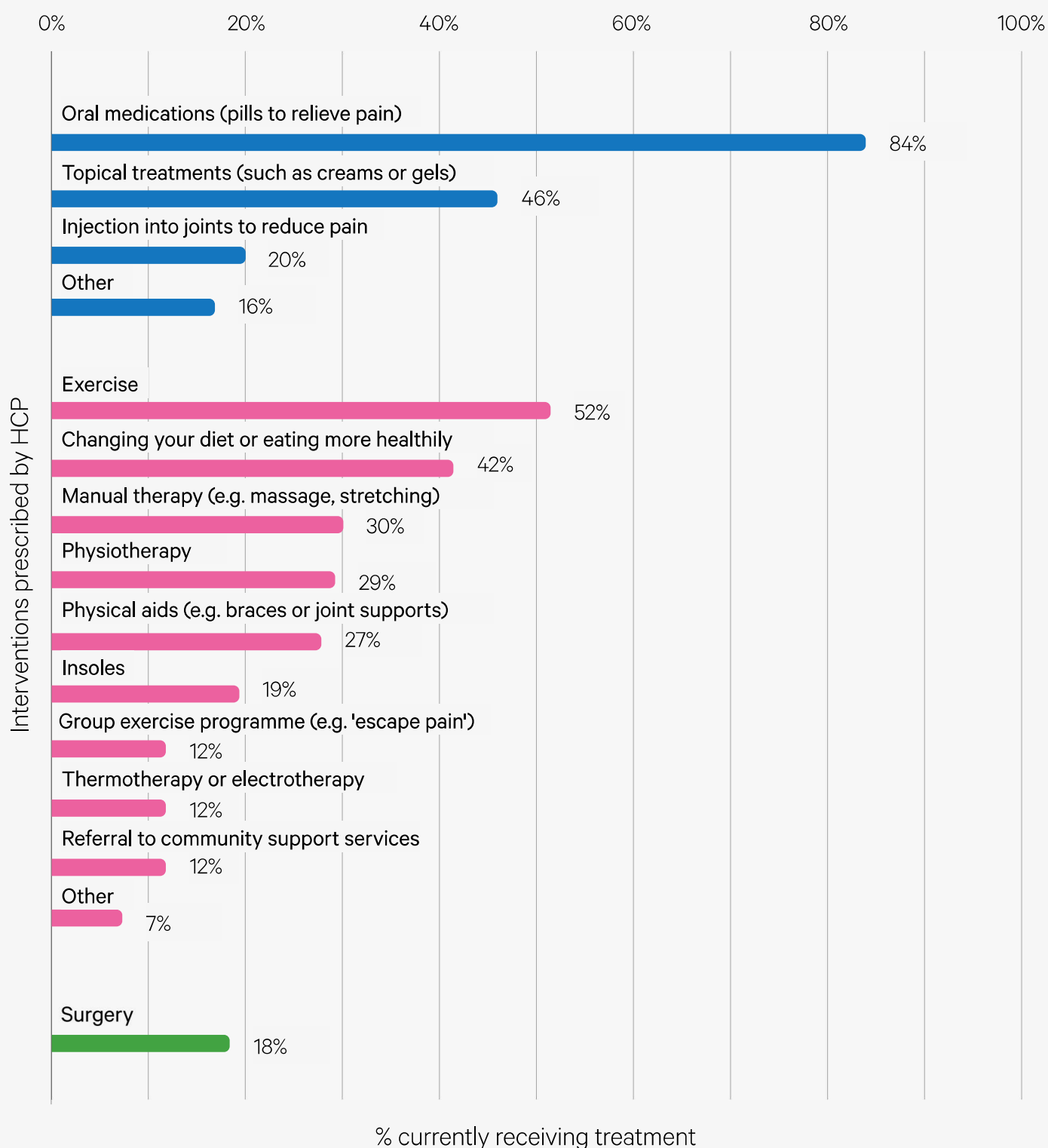
I'm grateful for getting information through Versus Arthritis as the GPs are not as well informed as they could be. The options for pain control, for example, seem particularly limited to medication and no other therapeutic interventions have proved to be helpful.

# PERSONALISATION

**TAILORING HEALTH AND  
CARE TO PEOPLE'S NEEDS**

PERSONALISATION

**Figure 3:**  
**Percentage of people with osteoarthritis in receipt of treatments prescribed or recommended by a healthcare professional (among those receiving treatment at the time of the survey)**



BASE: Sample currently receiving treatment or support prescribed or referred by a health care professional, n=370



## Introduction

**Wherever people are on their journey with osteoarthritis, they should have access to support if, how, and when, they want to take steps to improve their health and wellbeing.**

Every person's experience of osteoarthritis is different. There will be various starting points, rates of progress, access to support and resources, and differing capabilities and motivations to engage effectively with services and their own self-management. Personalisation in osteoarthritis care, treatment and support needs to recognise these differences, with services connecting with individual people to develop a treatment and care approach that works best for them. A tailored, inclusive and holistic approach to treatment is what is needed.



**My main recommendation is, please treat me as a whole person: my different musculoskeletal conditions affect each other.**



Ceri, person with lived experience of osteoarthritis

## Treatments for osteoarthritis

There are three main groups of treatments available for osteoarthritis: interventions involving medication, non-drug treatments and surgery. Such treatments aim to improve quality of life through reducing joint pain and stiffness and enabling functional ability. Information and support are required throughout to enable the person with osteoarthritis to understand their condition and navigate the different treatment options available to them.<sup>21</sup>

People with osteoarthritis will often be engaging with more than one treatment option at any one time. Irrespective of the severity of a person's osteoarthritis, physical activity should remain a core treatment.<sup>22</sup>

## Table 1: Key treatments available for osteoarthritis

### Non-drug interventions

- Physical activity
- Physiotherapy
- Weight loss
- Rehabilitation
- Aids and adaptation

### Interventions involving medication

- Oral medication (for pain relief)
- Topical medication
- Joint injections

### Surgery

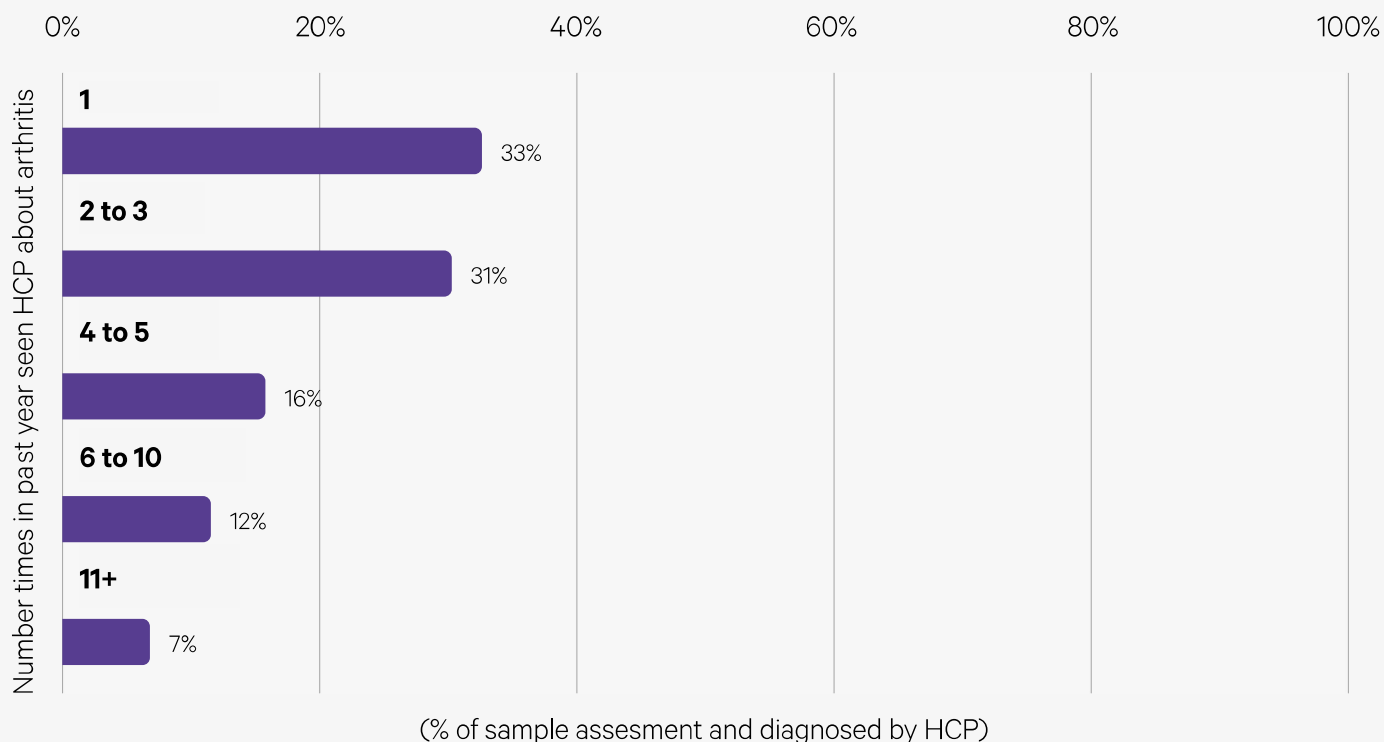
- Joint replacement surgery

### Underpinned by: Information and support

Information and support are needed irrespective of treatment. This should include accurate information about osteoarthritis, symptom management, treatment, self-management and signposting to support.

**Figure 4:**

**Number of times people reported seeing a health care professional about their arthritis in the past year**



BASE: Total sample assessed and diagnosed by healthcare professional, n=930

## Use of different treatments

As seen in Fig.3, in the 2020 survey of people with osteoarthritis, amongst those currently receiving treatment prescribed or recommended by a healthcare professional, oral pain relief medication was the most commonly prescribed treatment, provided to over eight out of 10 respondents (84%). Around half of respondents (52%) were recommended exercise and four out of 10 (42%) had been supported to change their diet or eat more healthily. However, only one in 10 (12%) were attending a group exercise programme such as Escape Pain.<sup>23</sup>

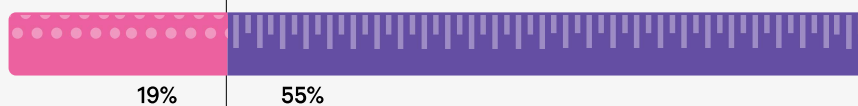
For severe osteoarthritis, joint replacement surgery can be a clinically and cost-effective intervention which can reduce pain and restore mobility. In the 2020 survey of people with osteoarthritis, two out of 10 respondents (18%) said they had been prescribed surgery as a treatment. Many people tell Versus Arthritis that joint replacements are life-transforming in terms of improving their quality of life.<sup>24</sup>

According to the National Joint Registry's 2021 report, osteoarthritis was listed as the sole reason for 88.1% of primary hip replacements and 96.6% of primary knee replacements that were carried out.<sup>25</sup>

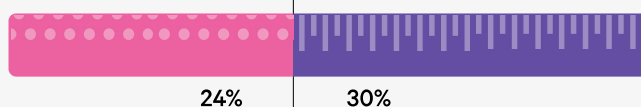
**Figure 5:**  
**How respondents rated different aspects of management of their care by healthcare professionals**

Statements about care management

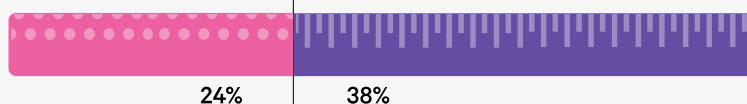
The advice I get is clear, even if it comes from a range of professionals



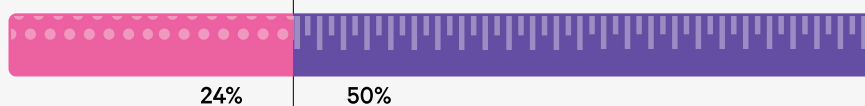
The doctors and other health care professionals who treat me advise and support me on managing my arthritis while at work



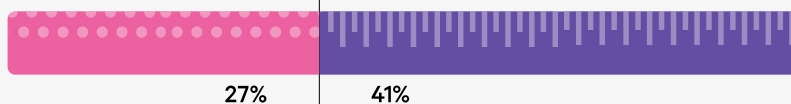
Those involved in my treatment and management communicate and coordinate with each other



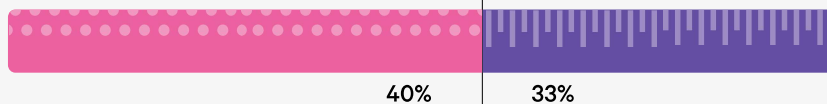
I felt that a clear approach to treatment was communicated to me in a timely way



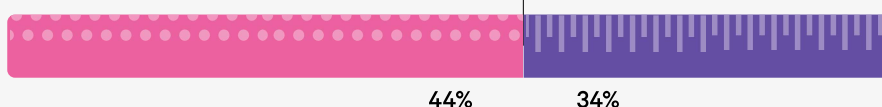
I have felt supported when I am waiting to see another health care professional that I have been referred to





There is one named individual responsible for organising the management of my condition and I know how to reach them



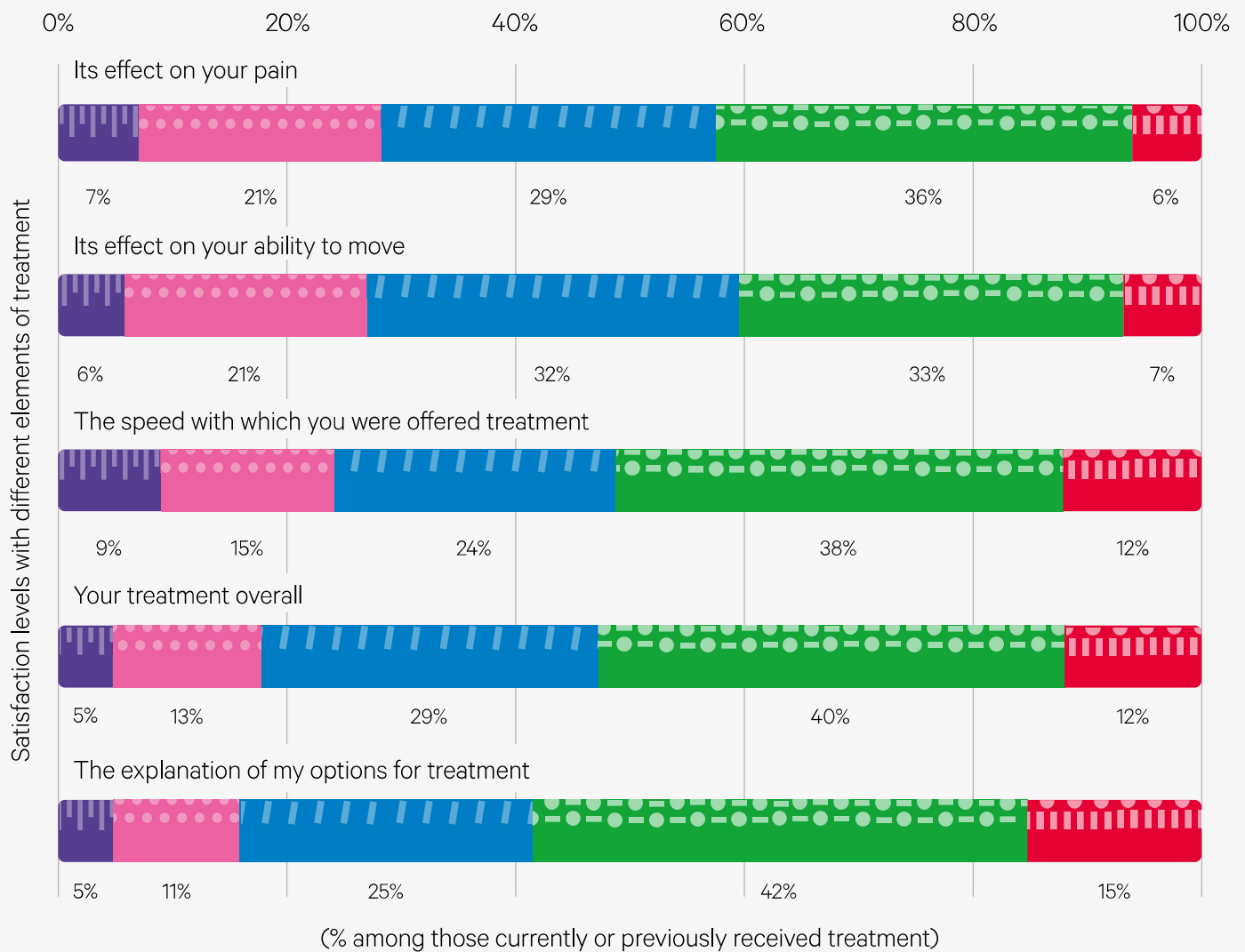
I have regular reviews to discuss the status of my condition and treatment



 % who disagree      % who agree      

BASE: Total sample assessed and diagnosed by healthcare professional, n=930

**Figure 6:**  
**Survey respondents' level of satisfaction with different aspects of their osteoarthritis treatment**



BASE: Sample currently receiving or previously received treatment or support prescribed or referred by a health care professional, n=824

## Satisfaction with treatments

People with osteoarthritis had mixed levels of satisfaction with the available treatments they were offered. For example, whilst four out of 10 (42%) respondents were satisfied or very satisfied with the effect of their treatments on their pain, nearly three out of 10 (28%) were dissatisfied or extremely dissatisfied.<sup>F</sup> A similar pattern emerged regarding the impact of people's treatments on their mobility: whilst four out of 10 (40%) respondents were satisfied or very satisfied with the effect their treatment had on their mobility, one in four (27%) were dissatisfied or extremely dissatisfied. Clearly improvement is needed to increase the number of people who feel positive about the impact their treatment is having on their symptoms.

## Engagement with healthcare professionals

Most respondents to the survey (89%) had received an assessment and diagnosis of osteoarthritis from a healthcare professional; however, one out of 10 (11%) had not received a formal diagnosis. Of those formally diagnosed, their level of engagement with health services varied considerably: a third of people (33%) had seen a healthcare professional just once in the last year about their osteoarthritis, whilst another third (31%) had seen a healthcare professional two to three times. At the other end of the spectrum, there was a relatively small group who reported having seen a healthcare professional multiple times: almost two out of 10 (19%) survey respondents said they had seen a healthcare professional six or more times in the previous year alone.

As one would expect, those who reported a severe impact of pain on their lives, were more likely to have had a greater number of engagements with healthcare professionals in the previous year. Only one out of 10 (10%) of those reporting the impact of their pain as 'mild' had seen a healthcare professional six or more times in the previous year, compared to around three out of 10 (32%) of those reporting the impact as 'severe'.

There are also reasons why engagement may vary over time. The survey did not cover 'why' people were no longer engaged with healthcare professionals. On the one hand, it could be because they are managing well, or it could be that they aren't managing well, but don't feel they will gain any benefit from further engagement. It remains important that people with osteoarthritis are able to maintain engagement as needed, particularly if their condition deteriorates.

## Management of care

People with osteoarthritis' experiences of the overall management of their care were variable. Positively, as seen in Fig.5, over half of survey respondents (55%) felt the range of advice they had received was clear and again half of respondents (50%) felt that a clear approach to their treatment was communicated to them in a timely way.<sup>G</sup>

On the other hand, only around three out of 10 (34%) respondents reported having regular reviews to discuss the status of their condition and treatment or having a named individual responsible for their care who they know how to reach (33%). This suggests that the care for those people was not well planned or coordinated.

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**F** Base: those (at the time of the survey) who were currently receiving, or had received in the past but not at the moment, treatment or support prescribed by a health care professional. N=824. Q. How satisfied are you with the following aspects of your treatment for your arthritis? [Its effect on your pain; Its effect on your ability to move] Survey of people with osteoarthritis, 2020. Pfizer.

**G** Base: those reporting they had their arthritis assessed and diagnosed by a health care professional. N=930. Q. To what extent do you agree or disagree with the following statements about how your arthritis care has been managed by different health care professionals (e.g. nurses / GPs / physiotherapists / surgeons)? [The advice I get is clear, even if it comes from a range of professionals; I felt that a clear approach to treatment was communicated to me in a timely way; I have regular reviews to discuss the status of my condition and treatment; There is one named individual responsible for organising the management of my condition and I know how to reach them] Survey of people with osteoarthritis, 2020. Pfizer.

There are also many people with osteoarthritis who are trying to manage their condition without any formal support or direction from healthcare professionals. For example, around six out of 10 (62%) respondents have independently tried to use exercise and nearly half (45%) have tried to lose weight without support. Four out of 10 (39%) also reported having tried manual therapy such as massage and two out of 10 (21%) have attempted to use meditation or mindfulness to help manage their pain, while around one in 10 (13%) have tried acupuncture. <sup>H</sup>

## Satisfaction with overall treatment

When the survey data looked beyond the immediate impact of treatments on symptoms to other aspects of people's care, a more positive story is seen. Nearly six out of 10 (57%) respondents were satisfied or very satisfied with the explanation given to them about their treatment options, while half of respondents were also satisfied or very satisfied with the speed with which they were offered treatments (50%) and with their treatment overall (52%).

## Implications

### Supporting people with osteoarthritis

Despite the incredible value of preventative measures such as physical activity, the survey data reveals a big disparity in how many people are being recommended or 'prescribed' non-drug treatments as opposed to medication. The overwhelming majority of people with osteoarthritis who had been prescribed a treatment, were prescribed medication – more than eight in 10 people (84%) – compared to an intervention such as exercise, which only half of people had been recommended (52%). This is even though best practice guidelines on managing osteoarthritis produced by the National Institute for Health and Care Excellence (NICE) recommend taking a holistic approach to treating and supporting people, including through exercise and mental health support. <sup>26</sup>



**Pain relief is what patients really want to talk about**



**Dr Bethan Forgie, GP and Versus Arthritis MSK Champion**

The pain of osteoarthritis can result in a consultation with a healthcare professional being focused primarily on medicines aimed at giving pain relief. Equally, a narrow focus on medication-based pain relief alone misses opportunities to understand the overall impact of osteoarthritis on a person's life – including on their home life, work and mood – and what else can positively be done.

One of the ways of rebalancing care towards a wider range of options for people is through the delivery of so-called 'personalised' care, where people have choice and control over the way their care is planned and delivered, based on what matters to them, taking into account their individual strengths and needs. <sup>27</sup>

Personalised management of long-term conditions such as osteoarthritis ideally requires regular reviews between patients and healthcare professionals, but such reviews don't always happen. Best practice guidelines advise that people with osteoarthritis should have regular reviews, and annual reviews if they are experiencing one or more of the following: troublesome joint pain, more than one joint with symptoms, more than one comorbidity, and/or taking regular medication for their osteoarthritis. <sup>28</sup>

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**H** Base: Total sample, n=1041. Q. In which, if any, of the following ways have you tried to manage pain caused by your OA yourself? Survey of people with osteoarthritis, 2020. Pfizer.

Such reviews should be an integral part of personalised care, including developing a personalised care and support plan tailored to that person's needs. A care and support plan should be developed by a healthcare professional in partnership with the person with osteoarthritis. Such a mutually agreed plan should begin with an identification of the key symptoms and challenges that person is facing as a result of their osteoarthritis. It should encompass all the key elements of their care and treatment – such as pain relief, advice on sleep where this is a problem, mental health support, an exercise plan, education, employment, housing, social care needs and information on peer-group support in the community – so people feel empowered to manage their symptoms well. Critically, such a plan should also encompass the goals and aspirations of the person with osteoarthritis – whether these are short term goals such as visiting a friend or being able to stay in employment in the longer term.



**In order to provide proactive, holistic care and treatment, we need to consider how we support our teams, and our workforce, to have collaborative conversations with people. For some healthcare professionals this will require a change in behaviour as they move away from traditional ways of thinking and behaving, where they see themselves as the primary decision-maker, towards a more partnership-based approach.**



**Dr Chloe Stewart, National Specialist Clinical Advisor (MSK), Personalised Care Group, NHS England and Improvement (NHSE/I)**

Decision support tools can support people to work in partnership with their healthcare professionals to develop a care and support plan, making informed choices about their care. Versus Arthritis has produced a suite of such support tools to help people with back and shoulder pain, and hip and knee pain (mainly caused by osteoarthritis) which are available on the Versus Arthritis [website](#).<sup>29</sup>

People with osteoarthritis' changing needs and circumstances require good care coordination. This may include access to multiple services across health and social care, such as physiotherapy and

mental health support, or to assistance with their employment needs or financial support. Being able to navigate multiple, complex systems well is key. A disjointed offer can place an unnecessary burden on people's lives, which could be avoided by more effective care co-ordination.



**Physios have been great, but the lack of a joined-up approach means I get one physio for my ankle and a different physio for my hips with conflicting responses to my various questions.**



**Ceri, person with lived experience of osteoarthritis**

## **Shaping the healthcare system**

A high frequency of engagements with healthcare professionals does not necessarily lead to better outcomes. In fact, as we have seen above, a high level of engagement can often be a sign that a person's osteoarthritis is not well managed, where people are, for example, experiencing high levels of disability or mental health problems as a result of their pain. It is clear from the data that those in the survey who had the highest engagement were no more likely to be satisfied with their treatment overall.



The data suggests that frequent attendance is not leading to improved health and wellbeing, and at the same time represents an ineffective use of healthcare teams' time. People who are more engaged and activated in their own healthcare are able to better manage their symptoms and consult their clinical teams less often. It is true that providing personalised care, agreeing care and support plans, delivering self-management support – including through peer support – requires an investment of resources. Much of this would be recouped however by reducing the time and resources that are currently used to provide frequent episodes of low value care for those who are currently struggling with their osteoarthritis.



**We have an opportunity to embed a revised structure for the long-term condition management approach to osteoarthritis with the emergent integrated care system structure and what is happening at place level - and the ethos of moving towards a preventative population health model, focusing on integration between social, mental and physical services.**



Andy Bennett, National Clinical Director for Musculoskeletal Conditions, NHS England and Improvement (NHSE/I)

## **NHS England and Improvement's Best MSK Health programme**

In 2021, NHS England and Improvement launched a new programme, the Best MSK Health programme, with the aim of sustaining the delivery of evidence-informed, personalised, high-quality integrated healthcare. The initiative is part of the pathways for Better Health Programme. The programme covers the breadth of MSK including orthopaedics, rheumatology and pain and spans primary, secondary and community services.<sup>30</sup>



## The key role of healthcare professionals in primary and community care

Healthcare professionals in primary care and community services have a critical role to play in delivering and improving standards of care for people with musculoskeletal conditions. Such conditions are incredibly common in these settings and in fact, account for up to one in three GP consultations.<sup>31</sup> Yet education on musculoskeletal conditions has been under-recognised in undergraduate curricula in medical schools and in postgraduate medical training.<sup>32</sup>

Musculoskeletal conditions require a bio-psychosocial and multi-disciplinary approach. Hence it's important that GPs have a greater awareness and understanding of musculoskeletal conditions so they can better support people with osteoarthritis, and it's also critical for the wider primary and community care team. Physiotherapists, pharmacists and social prescribing link workers (a support role for signposting people to community support and assets) are all practitioners who could support different aspects of people with osteoarthritis' needs.

This support could also be provided through the new MSK First Contact Practitioner roles, which aim to enable people with musculoskeletal problems to have early access to an Allied Health Professional with specific knowledge about musculoskeletal conditions and self-management; such an approach has been piloted by Health Education England at multiple sites in England and is being rolled out.<sup>33</sup>

Given the holistic approach needed for the care and management of people with osteoarthritis, healthcare professionals and social prescribers need to be able to make connections to resources, services and assets in community settings early on. Such assets could include exercise classes, pain management classes, peer group support and local swimming or hydrotherapy pools (where available), which can help to improve people's health, wellbeing and sense of empowerment in managing their condition.



**We've shown from pilots how people can very simply start to use core interventions that are often completely missed, for example, making sure they've got the right footwear, using sticks when needed, taking pain relief in an appropriate way, keeping weight down, all those things. We've had some amazing responses/reactions from people showing that just having this 90-minute conversation was having a long-term beneficial impact on these people's lives.**



**Sam Haworth Booth, Aneurin Bevan University Health Board, Wales - Physiotherapy**

To enable such approaches to flourish, having access to a simple, local up-to-date register of such resources would be very helpful for both people with osteoarthritis and healthcare professionals.

# What we want to change

- **National bodies responsible for primary care should ensure that everyone with moderate or severe osteoarthritis is offered a co-produced care and support plan.**

This should be achieved by: setting this as the national standard of care for this population; collecting and publishing data on the uptake of care and support plans by people with osteoarthritis; and overseeing quality improvement programmes to support their implementation. Such care plans should be reviewed when there is a significant change in a person's osteoarthritis health status.

- **All front-line health and care staff, including social prescribing link workers, clinical pharmacists, health coaches and care coordinators, should be offered new accredited, short training courses that give them the knowledge and skills they need to be able to confidently support people in the community to manage their osteoarthritis.**

Front-line staff working in health and care systems need improved knowledge and skills about the needs of people with osteoarthritis and how these can be met. Training should include supporting staff to feel confident discussing physical activity with people with osteoarthritis and addressing their concerns about being active safely. Health and care professionals should be signposted to resources like Moving Medicine, the We Are Undefeatable campaign, and Let's Move with Leon programme, to help empower people with osteoarthritis to view physical activity as a tool they can use to support their health and wellbeing.

**INNOVATION**

**FINDING NEW AND MORE  
EFFECTIVE WAYS OF DELIVERING  
CARE AND SUPPORT**

**INNOVATION**

# Introduction

**There are huge opportunities for innovation in osteoarthritis care, treatment and support—making the way we deliver support more effective and more efficient.**

Innovation can be many things. Discovery of new knowledge can lead to the development of new treatments, while changes in health service delivery can enable different models of access to care, or offer new ways of supporting people, such as through online tailored exercise and self-management content. What's important is being able to share examples when good innovation occurs and to inspire others to do things differently in their patch.

## Desire to try new treatments and models of care

There was a strong willingness expressed amongst those who responded to the survey, to try new treatments for their condition. Almost nine out of 10 respondents (86%) reported a 'somewhat', 'very' or 'extreme' willingness to try new treatments. This trend was also seen in terms of people's desire for a greater focus on pain relief and exercise to help them do the physiotherapy exercises given to them (85%), and their willingness to access a more holistic range of care options, encompassing physical, mental and medical treatments (84%).

This interest in trying new treatments and initiatives was stronger amongst those who considered their experience of osteoarthritis, and the pain it caused them, to be more severe. In all the options shown in Fig. 7, those who rated the impact of pain from their osteoarthritis as moderate or severe, were significantly more likely to be 'extremely' willing to try such new initiatives than those who rated the impact of their pain as 'mild' or having 'no impact.'

In terms of a willingness to try new medicines to improve their pain management, whilst almost four out of 10 people (37%) who reported having a 'moderate' or 'severe' impact from the pain of their

osteoarthritis, said they would be 'extremely' willing to try new medicines, this fell to around two out of 10 (17%) people who reported having 'no' or a 'mild' impact from the pain of their osteoarthritis. That is understandable. People experiencing severe pain as a result of their osteoarthritis are clearly eager to try new treatments to alleviate their debilitating symptoms. <sup>1</sup>

## Meeting people's information needs

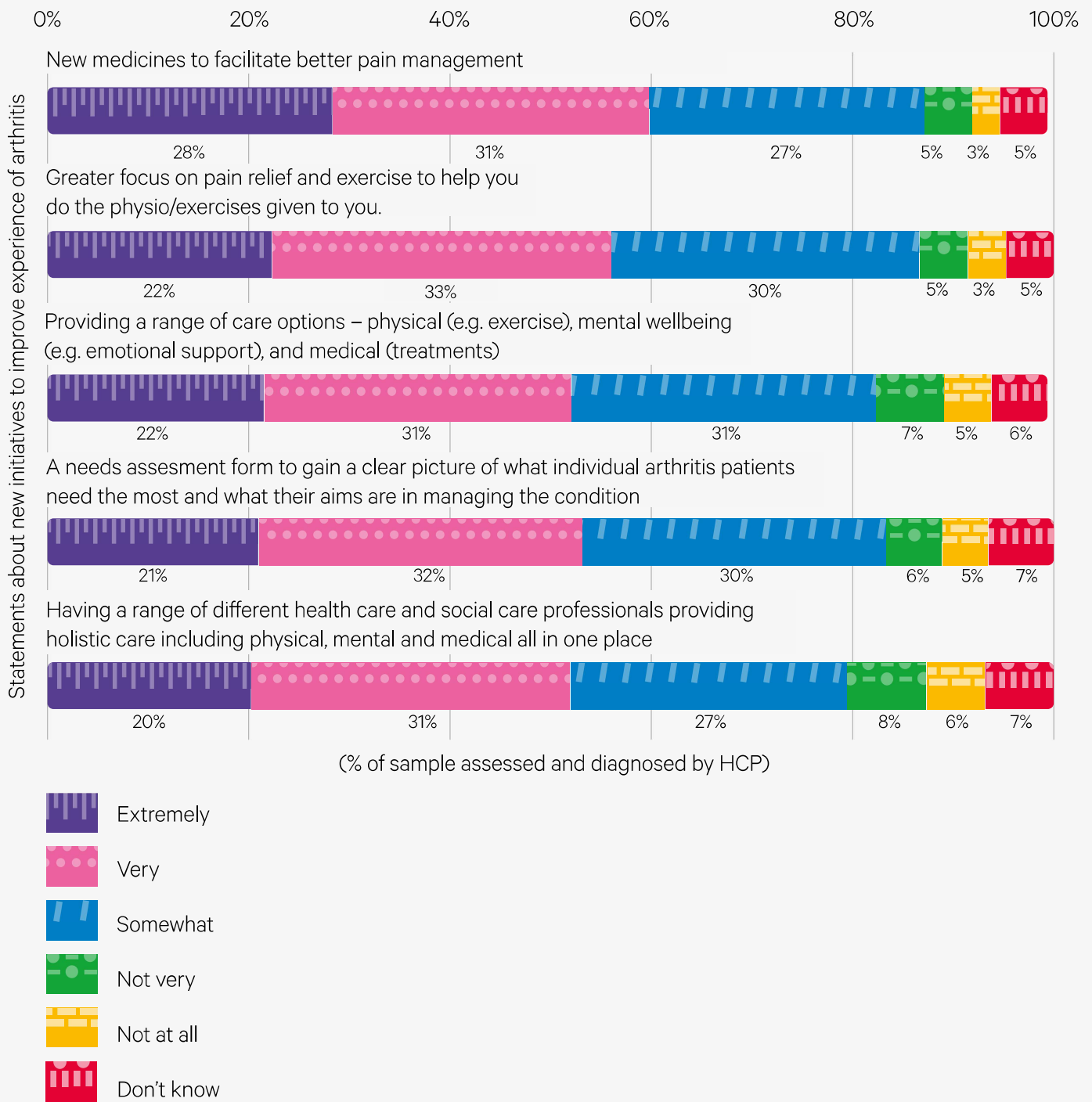
Access to high quality information about osteoarthritis including its symptoms, impact and treatments is vital at all stages of a person's care, from prevention through to surgery for those who need it.<sup>34</sup> Positively, nearly seven out of 10 (67%) of respondents to the survey were clear on what recommended lifestyle changes would help them to manage their osteoarthritis, but that means three out of 10 (33%) of respondents were not clear of the changes they could make to their lifestyle, to help them manage their osteoarthritis. Nearly six out of 10 (58%) people had been informed about available treatments and nearly six out of 10 (57%) were aware of the benefits and drawbacks of different treatment options. On the other hand, two out of 10 respondents (22%) reported they had not been told about what treatments were available with two out of 10 respondents (20%) also reporting not being aware of the respective pros and cons of different options.

When income is examined, there was also variation in people's understanding of self-management. Those who reported having higher annual household incomes were slightly more likely to agree with the statements about having the information they needed to manage their osteoarthritis well, particularly around being clear on the recommended lifestyle changes they should be making (for example around diet and exercise): three quarters (75%) of those with a household income above £35k a year felt they had the information they

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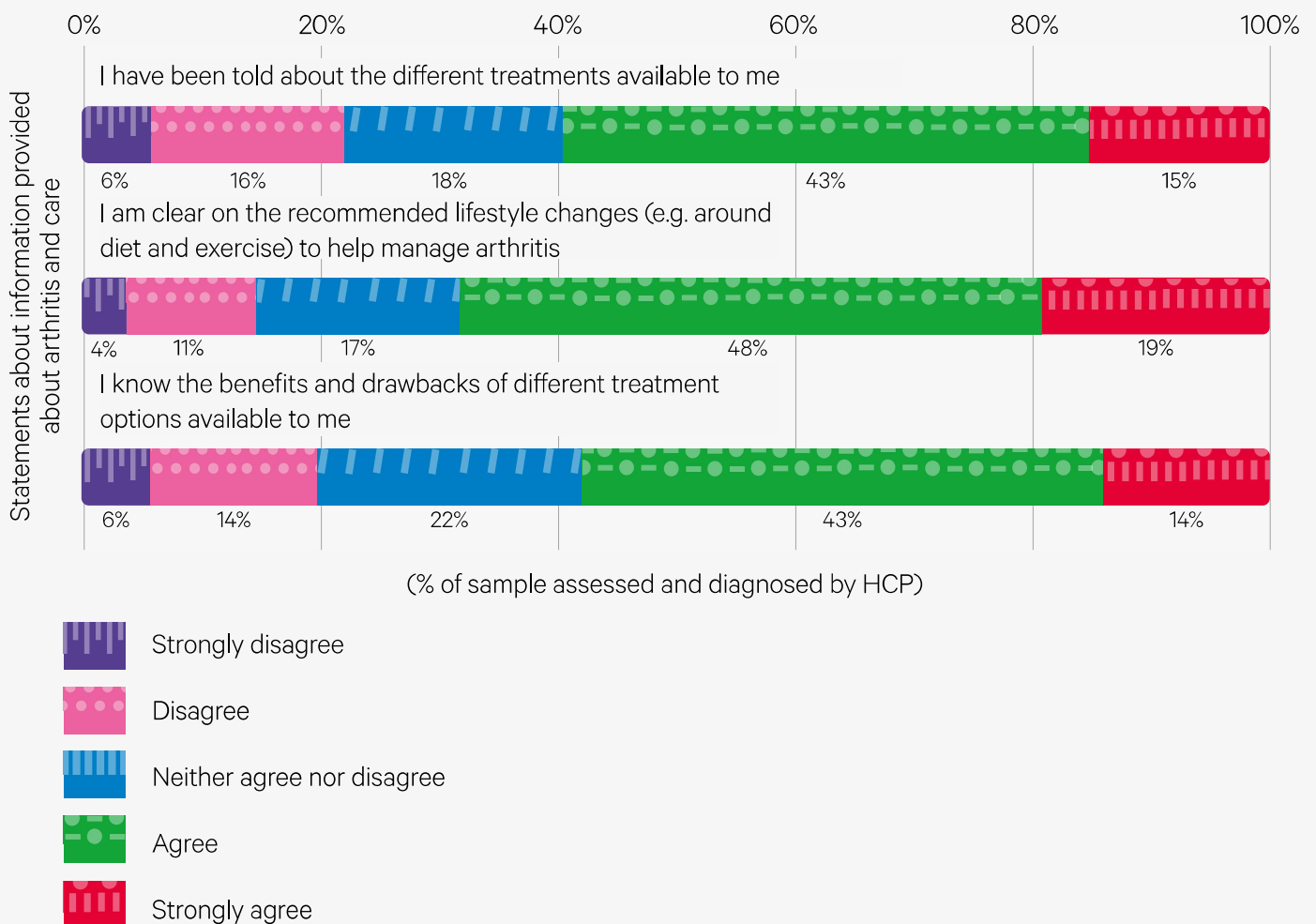
<sup>1</sup> While almost four out of 10 people (37%) reporting a 'moderate' or 'severe' impact from the pain of their osteoarthritis said they would be 'extremely' willing to try new medicines, this was only around two out of 10 (17%) among those who reported 'no' or a 'mild' impact from the pain of their osteoarthritis. Survey of people with osteoarthritis, 2020. Pfizer.

**Figure 7:**  
**Willingness to try new treatments and care initiatives**



BASE: Total sample assessed and diagnosed by healthcare professional, n=930

**Figure 8:**  
**Perceptions around the quality of information provision**



BASE: Total sample assessed and diagnosed by healthcare professional, n=930

needed, compared to six in 10 (61%) of those with a household income below £35k a year. <sup>J</sup>

This suggests there is still some way to go before all people with osteoarthritis feel fully informed about the steps they can take to manage their condition well.

## Enabling innovation in models of providing MSK care and support

Getting the right health and support information to people with osteoarthritis at the right time, in the right way, presents a key opportunity to better enable people to take control of their osteoarthritis and the things they can do to manage their condition.

<sup>J</sup> Base: Those reporting they had their arthritis assessed and diagnosed by a health care professional. N=930. Q. To what extent do you agree or disagree with the following statements about the information you have been given about arthritis care? Statement: "I am clear on the recommended lifestyle changes (e.g. around diet and exercise) to help manage arthritis. Survey of people with osteoarthritis, 2020. Pfizer.

Currently, people with osteoarthritis have clear information needs that are not always being met. There is a wealth of information available for people with osteoarthritis, but it is often poorly delivered, hard to remember, hard to act on, inconsistent, unclear and, at times, can be overwhelming.<sup>35,36</sup> The healthcare professionals' perspective on informational needs can differ from that of osteoarthritis patients.<sup>37</sup>

Digital technology provides new opportunities for increased tailoring and personalisation of content which could include voluntary sector providers. For example, the charity Diabetes UK has developed a dedicated, personalised [Learning Zone for people with diabetes](#)<sup>38</sup> whilst in the United States, the Center for Disease Prevention and Control offers an online training programme for people with arthritis - both examples of education resources that people can access at a time convenient to them.<sup>39</sup>

Digital apps may also offer new opportunities for people with osteoarthritis to self-manage their condition. Versus Arthritis has, for example, recently been involved in developing a free digital app, the Tracker App, for young people with arthritis, to target people under the age of 25, but also available to those above.<sup>40</sup> The app was the idea of a young person and has been developed by, and for, young people over the last few years; co-production of such digital tools is very important to understand and reflect people's needs, aspirations and goals. Such apps can increase users' ability to self-manage the unpredictable nature of their arthritis, enabling them to feel more confident, informed and empowered when talking to health care professionals.

There may be scope to co-produce similar, dedicated digital tools for people with osteoarthritis, and indeed some may already exist or be in development. These must be accredited for safety and quality purposes so they can be recommended for use by healthcare professionals.

In terms of peer support, a key benefit is people being able to share their personal experiences, hopes and fears with others living with osteoarthritis. This can reduce a sense of isolation and people tell us they find sharing their experiences valuable. Local, place-based initiatives that include group activities with education, information and support provided to people with osteoarthritis, include [group education sessions giving options, advice,](#)

[knowledge \(OAK\) for people with osteoarthritis of the knee across Gwent](#)<sup>41</sup> and [a new approach to supporting people with arthritis in NHS Forth Valley through better information, advice and exercise](#).<sup>42</sup>

Such a best practice approach can be adapted to fit local population needs in other areas.



**We have learned from our work with ESCAPE-Pain, as well as lots of other support programmes, that very often people can go round the clinical system for a long time, but once they find a group of people who are a bit like them and who understand their world, they can make changes together and therefore progress more quickly.**



**Sarah Clarke, Health Service Improvement Manager, Versus Arthritis**



## Shaping systems providing care to people with osteoarthritis

More effective use of digital products and technologies in the delivery of care provides another distinct route for innovation.<sup>43</sup> There are clear opportunities offered by delivering care virtually, initially necessitated by the Covid-19 pandemic, but offering more convenient engagement for those who struggle to access appointments due to their mobility or other commitments in their life, such as work or caring responsibilities.<sup>44</sup>

Equally, the longer-term effectiveness of digitally delivered care needs to be studied and evaluated more thoroughly, including in different settings, for example in rehabilitation settings,<sup>45</sup> and it may not be suitable for all interventions, or for all patients. Patient choice is central here – it is very important to listen to people with osteoarthritis on how and where they feel most comfortable engaging with services, as part of a personalised approach to care, enabling face-to-face access when required and preferred.



**We also needed to be guided by what patients want – some like virtual appointments, others not; there are diverse communities, and one size doesn't fit all.**



Noha Al Afifi, Arthritis Action

## The need for improved data on osteoarthritis in primary care

Better health data on osteoarthritis and other musculoskeletal conditions is needed, particularly in primary and community care. Data in primary care health records may be poor for two reasons. First, clinicians can sometimes be reluctant to make and record a diagnosis of osteoarthritis even when a person has a typical cluster of osteoarthritis symptoms. The anxiety about making a diagnosis may be linked to best practice guidelines that recommend against using X-rays or other scans to make a diagnosis.<sup>46</sup> Instead guidelines emphasise the importance of the clinician listening to the person describing their symptoms and then examining the affected joint. In some cases,

clinicians may not feel sufficiently confident in their own clinical skills to make accurate diagnoses that they feel comfortable enough to record. Secondly, in some cases clinicians may feel able to make the diagnosis, but do not record it correctly, perhaps because it is only one of a number of issues being discussed in that consultation, and it is not viewed as sufficiently important to record.

This lack of complete and accurate coding can make it difficult for commissioners to use such datasets to understand the needs of their local populations, plan effectively, or target health improvement initiatives at people with osteoarthritis. It also makes it more difficult for researchers to use such datasets for clinical research. Versus Arthritis' Primary Care Centre at Keele has specifically worked with local GPs in North Staffordshire to improve their clinical management skills for osteoarthritis alongside ensuring more accurate coding of the condition.<sup>47</sup>



**It does make research very difficult if we have a hundred different codes for things that might be osteoarthritis and we're trying to identify people for clinical trials or to do data research.**



Dr Fiona Watt, Faculty of Medicine, Department of Immunology and Inflammation, Imperial College London; Versus Arthritis lead on Musculoskeletal Disorders Research Advisory Group



## What we want to change

- **National organisations with responsibility for the collection, analysis and publication of health data should develop and implement a plan to improve the coding of osteoarthritis in primary care and use this enhanced health data to understand osteoarthritis prevalence, health inequalities, treatment and outcomes at the local level.**

By focusing on improving the quality of diagnostic recording at practice-level, and linking this to treatment and outcomes, it should be possible to both explore and tackle unwarranted variation in practice and to facilitate more high-quality osteoarthritis research.

- **Government agencies involved in health and care digital transformation should conduct research and pilot studies to investigate, and further develop, accredit and implement evidence-based, co-produced digital support tools and online programmes to support people with osteoarthritis.**

Learning should be taken from different health condition areas (such as the online Learning Zone offered by Diabetes UK) and activities in different countries (such as the Center for Disease Prevention and Control's Arthritis Support Programme in the US) to better equip people with osteoarthritis with the knowledge and tools they need to self-manage their condition, accessible at a time and in a format that is convenient for them.

## Our Future Approach: Versus Arthritis' Research Strategy

Versus Arthritis has published its Research Strategy for 2022-2026 with four key priorities:

- **Early detection and prevention:** Spotting the biological signatures of arthritis early to maximise the opportunities for timely intervention and preventing it from getting worse.
- **Targeted treatment:** Taking the guesswork out of treatment by increasing effective, reliable and timely drug and non-drug solutions to reduce, manage or cure disease.
- **Living well:** Addressing musculoskeletal health inequalities for individuals and the wider society by striving for better musculoskeletal health and care at home, in leisure, at work and in communities.
- **People and partnerships:** Making Versus Arthritis the partner of choice – for our funding partners, the life-sciences industry and our researchers.

# PREVENTION

**REDUCING THE RISK OF DEVELOPING  
OSTEOARTHRITIS AND THE IMPACT ON  
THOSE WHO HAVE IT**

PREVENTION

# Introduction

The main risk factors for osteoarthritis are age, sex, genetic factors, physical injury, obesity and previous joint illness or injury, in addition to physical inactivity.<sup>48</sup> As obesity and physical inactivity are the key modifiable risk factors for osteoarthritis, they have an important role to play in the alleviation of pain and the management of symptoms, to prevent further deterioration once osteoarthritis is present in the joints. This is often referred to as secondary prevention. Hence, encouraging people to be active and maintain a healthy body weight are both ways in which taking a strong public health approach can support people with osteoarthritis' overall health and wellbeing.<sup>49</sup>



**A lot more can be done in terms of increasing the public's awareness about prevention. There is a lot of misinformation out there.**



Victoria Tzortziou-Brown, GP and Honorary Secretary, Royal College of General Practitioners

## The benefits of physical activity for people with osteoarthritis

Physical activity is an effective way to build and protect strong bones, muscles and joints, and it is also a vital self-management tool for people living with osteoarthritis. Physical activity can help those living with osteoarthritis to retain mobility and reduce pain, as well as having wider health benefits for people's cardiovascular fitness and mental wellbeing. Likewise, achieving and maintaining a healthy weight can help to reduce the pressure on people's weight-bearing joints such as their knees, for example through taking part in a supported weight management programme.

Physical activity is recognised in best practice guidelines as an important part of treatment for osteoarthritis, recommending that conversations about physical activity should form a core part of routine clinical care, regardless of a person's age, comorbidities or functional limitations.<sup>50,51</sup>

However, despite the many benefits, people with osteoarthritis face significant challenges in staying physically active and maintaining a healthy weight over the long-term, for a wide range of complex and interconnected reasons. Many struggle to get started with physical activity and so are inactive, linked to capability, a lack of opportunity and motivation.<sup>52</sup> Some feel that they cannot participate in the activities that can help to keep their condition from deteriorating because other aspects of their lives take priority, such as work or family; others fear physical activity will cause their symptoms to worsen, such as experiencing pain linked to exercise.<sup>53</sup> Hence, being able to access tailored [resources](#), information and programmes that can support on-going physical activity is important for ensuring people with osteoarthritis can manage their condition through activity.<sup>54</sup>



**It's about educating the general population, early on, that there are things that can help if you run into problems with joint pain - people have often been trying to live and self-manage their osteoarthritis problem for many years before they go to a GP - that's just the tip of the iceberg**



Prof Mike Hurley, Clinical Director, ESCAPE-pain, Orthopaedic Research UK and MSK Programme, Health Innovation Network

## People with osteoarthritis and preventative approaches

As mentioned above, the 2020 survey of people with osteoarthritis revealed several key insights in relation to the use of non-drug interventions:

- **Treatments prescribed by healthcare professionals:** Among those currently receiving treatment or support, around half of respondents (52%) reported being recommended or prescribed some form of exercise, and four out of 10 (42%) being supported to change their diet or eat more healthily. However, a much lower proportion of these respondents reported having access to physiotherapy (29%), physical aids (27%) or a group exercise programme (12%) to help facilitate this behaviour change.
- **Willingness to try new treatments:** An overwhelming majority of respondents were willing to engage with new forms of treatment that prioritise greater levels of activity: more than eight out of 10 people (85%) said they would be open to an approach that focused more on pain relief in order to help with their physiotherapy. A similar proportion (84%) were willing to try treatments that provided a wider range of care options, including exercise.
- **Information needs:** Nearly seven out of 10 respondents (67%) were clear on what recommended lifestyle changes would help them to manage their osteoarthritis, whilst nearly six out of 10 (58%) had been informed about available treatments and (57%) were aware of the benefits and drawbacks of different treatment options. However, a minority of respondents (15%) were not aware of what lifestyle changes would help people to manage their osteoarthritis. Also, simply having an awareness of how important physical activity and weight loss (where needed) are, does not always easily translate into activation.

## Implications

### Enabling people with osteoarthritis to be physically active and self-manage their condition well

Self-management through physical activity is a critical component of living well with osteoarthritis and yet people with osteoarthritis face many barriers when trying to be active and self-manage. A wide range of factors influence a person's capability, opportunity and motivation to be more active. For example, people with chronic musculoskeletal pain may experience physical barriers such as pain or fatigue, or knowledge barriers such as a low level of understanding of what role such persistent musculoskeletal pain plays in their condition.<sup>55</sup> Services which understand and meet the needs of people with osteoarthritis and support people to manage their condition and prevent further deterioration through increased activity, must be aware of and address these, often unseen, barriers in order to be effective in enabling longer-term behaviour change.

### Addressing fears and concerns about being active and providing effective signposting to specialised resources

A persistent challenge faced when trying to increase activity levels amongst people with long-term health conditions is a reported hesitancy amongst healthcare professionals to engage with patients about the benefits of physical activity. Healthcare professionals are a key source of information and advice for people living with osteoarthritis and Versus Arthritis' research has shown that people with musculoskeletal conditions who think their healthcare professional would approve of them doing physical activity, are, in practice, significantly more likely to be active.<sup>56</sup> Therefore, ensuring that healthcare professionals are able to champion physical activity is key to people with osteoarthritis viewing it as an important part of self-management.

To help address this barrier, a Physical Activity Risk Consensus Group, led by the Faculty of Sport and Exercise Medicine UK, Sport England, the Office for Health Improvement and Disparities (OHID) and the Royal College of General Practitioners, was set up to create a set of clear, simple [statements](#) for healthcare professionals to use when talking to people with long-term health conditions about the medical risks of physical activity.<sup>57</sup> These messages should be utilised by healthcare professionals when discussing the benefits of activity for people with osteoarthritis. Currently, too often, people are told that they need to go and see their doctor and be ‘signed off’ before starting to increase their levels of physical activity, but, hopefully this will start to change.

To support people with osteoarthritis and other musculoskeletal conditions manage their symptoms, Versus Arthritis built our [Let’s Move](#) initiative<sup>58</sup> including ‘[Let’s move with Leon](#)’, a 12-week programme designed to improve strength, flexibility and cardiovascular fitness. Between September 2020 and February 2021, the Let’s Move programme reported:<sup>59</sup>

- Over 50,000 individuals had signed up to the programme.
- The most common motivation of participants was to ‘improve the management of [their] condition’.
- 30% of participants were living with chronic, long term joint pain.
- 63% of participants had been inactive at the start of the programme.

This clearly demonstrates that there is an interest in using physical activity resources that are tailored to meet the needs of people experiencing musculoskeletal symptoms including pain, stiffness and limited mobility.

People with osteoarthritis should be directed towards these types of specialised sources of information and support to improve their understanding of how they can be active safely, and increase their motivation to do so. It is also important that healthcare professionals and social prescribers are aware of such programmes and can refer people at all stages of their osteoarthritis journey to these and similar resources.

## Shaping the system

Osteoarthritis has previously been described as ‘an unrecognised public health priority’<sup>60</sup> owing to both its scale – it affects 8.75 million people in the UK – and its modifiable risk factors of physical inactivity and obesity or overweight.

These key risk factors are also the same as for other conditions such as cardiovascular diseases and diabetes. Together they represent a significant proportion of the avoidable disease burden in the UK. This means that public health programmes designed to address such underlying risk factors can help in the management of multiple, often comorbid conditions at once.<sup>61</sup> For example, ‘[We are Undefeatable](#)’ is a national campaign developed by a coalition of health charities including Versus Arthritis, in partnership with Sport England, to help people with long-term health conditions be more active.<sup>62</sup>

Nonetheless, a key challenge that people with osteoarthritis face is widespread and often inaccurate perceptions about the condition and its causes. Osteoarthritis is widely perceived as being an inevitable part of ageing or a condition where, once someone has been diagnosed with it, there’s ‘not that much which can be done about it’, which in turn can affect people’s motivation and sense of empowerment. This is especially the case if such sentiments are expressed or reinforced by a healthcare professional.<sup>63,64</sup> There is also a minority of people who develop osteoarthritis earlier on in life due to injury or in association with other conditions and the view that it is exclusively an older person’s condition also needs to be revised. Hence, whilst government-funded health promotion campaigns have the potential to target risk factors which affect many long-term conditions, they should also consider the needs of people with osteoarthritis throughout their approach, to ensure they do not exclude a group of people who would significantly benefit from positive, promotional health messages. Such public health campaigns should challenge both the stigma and the passive acceptance of osteoarthritis and convey positive messages about the things that people with osteoarthritis can do to improve their health and wellbeing. It’s critical that not only do we support people to live well, but that we also target action upstream to try to reduce and delay the pain of severe osteoarthritis.



**I think it's vital that we embed prevention messaging, because when you're thinking about obesity or about physical activity, people immediately think, diabetes, CVD, cancer; bone joint health probably doesn't even come into people's mind and that's where we need to shift thinking and get that messaging embedded because you're looking at the same risk factors for most of these conditions.**



**Nuzhat Ali, National Lead for Musculoskeletal Health, the then Public Health England.**

Taking a population health approach to maintaining healthy bones and joints throughout life should be a government, health systems and local government priority, building on previous policy,<sup>65</sup> to reduce the ill health, pain and disability linked to the current high prevalence of osteoarthritis in society, which is likely to increase with an ageing population.

## **What we want to change**

- **National and local bodies responsible for public health should have named, accountable leadership for musculoskeletal health promotion.**

To prevent osteoarthritis and slow down its progression, these organisations should audit their physical activity and healthy weight programmes to ensure the needs of people with osteoarthritis are being met. These programmes should work with health and care professionals, system leaders and decision makers, leisure services and activity providers and the voluntary sector, to challenge both the stigma and the passive acceptance of osteoarthritis and convey positive messages about the benefits of being physically active and maintaining a healthy weight for people with osteoarthritis.

# CONCLUSION

As we have seen in this report, living with osteoarthritis is not just about 'having a touch of arthritis' – osteoarthritis can have a profound and far-reaching impact on people's lives. The survey of people with osteoarthritis which forms the basis for this report demonstrates that the effects of living with osteoarthritis can be both physical, psychological and emotional, negatively affecting people's enjoyment of life, their sleep, their ability to work and socialise, and even how they see their future.

Perhaps the most startling finding of the survey was the severity of pain many people reported, with a third of people saying they experienced severe pain every day. If these survey results are representative of the UK population as a whole, it means millions of people are living with debilitating pain as a result of their osteoarthritis every single day of their lives. Living with poorly controlled persistent pain can diminish every aspect of a person's life.

The survey also found both positive and less positive things about people's experiences of care. While many were satisfied with their overall treatment, there were clearly others who were not getting the support they needed, either in terms of having an agreed care and support plan to help them manage their condition, or receiving well-coordinated care across different services. Osteoarthritis also affects population groups differently and therefore tackling health inequalities is critical to delivering better care and support.

At Versus Arthritis' high-level roundtable in September 2021, we discussed how people's care might be improved to lead to better experiences and outcomes. Participants indicated that there are three key areas where a step change in services is needed: personalisation, innovation and prevention.

Firstly, given that every person's experience of osteoarthritis is different, including their individual circumstances and level of disability, people really need personalised services that are based on 'what matters' to them, taking account of their individual strengths and needs. This should be agreed between clinician and patient in a process supported using recognised decision-support tools, such as those developed by Versus Arthritis. Where people are making multiple visits to see healthcare professionals this also often indicates an unmet

need in terms of their pain control and/or mental health, which needs to be addressed.

Innovation also offers the opportunity to do things better. This can include digital consultations (where appropriate), or developing new digital support tools such as dedicated apps to help people take greater control of their health. Online learning programmes, offering up-to-date advice and information in a format accessible to people, which they can access at a time and place convenient to them, would also be another important step forwards. This would support healthcare professionals in their quest to provide patients with high quality health information about their osteoarthritis, in often short consultation times.

Two other key areas related to innovation also require action, one technical and one in terms of new research. Firstly, improved diagnosis and coding of osteoarthritis in primary care is urgently needed to better understand the prevalence of osteoarthritis locally to meet the population's health needs *and* to facilitate more clinical research. In addition, while new treatments for people with inflammatory arthritis have, in some case, revolutionised people's care and outcomes, people with osteoarthritis have not benefitted from similar medical advances in their treatment: for them, often relatively ineffective pain medication and/or joint replacement surgery still remain the only clinical options available to them. This lack of progress needs to be addressed.

Finally, the prevention of osteoarthritis, both before symptoms are present to prevent onset and after people have symptoms to prevent progression, must be a priority. Myths around osteoarthritis being an inevitable part of ageing need to be challenged, as does the stigma associated with the condition. National and local public health campaigns – for example aimed at tackling obesity and physical inactivity – need to consider the needs of people with chronic pain from osteoarthritis, and should have the promotion of good musculoskeletal health at their core, alongside the prevention of other long-term conditions such as cardiovascular disease and diabetes.



In addition, healthcare professionals need to better understand their role in promoting physical activity for people with osteoarthritis and supporting them to become and remain physically active, to help manage their symptoms and improve their overall health and wellbeing. Through its physical activity programmes, Versus Arthritis has seen first-hand the benefits to people with osteoarthritis of engaging in physical activity, especially in peer group settings, to improve their mobility, help manage their pain and reduce their overall sense of isolation.

Osteoarthritis is one of the leading causes of pain and disability in the UK. It is time that the condition was taken more seriously and given a far greater 'voice' in the NHS and beyond, given the impact that it has on people living with the condition and the demand it places on NHS services. It's really not just 'a touch of arthritis' – it's painful, hard to live with and can be extremely debilitating.

More broadly, good musculoskeletal health is essential for good lifelong health: that message needs to be spread far and wide across society and health systems.

## **Recommendations:**

### **Personalisation:**

- **National bodies responsible for primary care should ensure that everyone with moderate or severe osteoarthritis is offered a co-produced care and support plan.**

This should be achieved by: setting this as the national standard of care for this population; collecting and publishing data on the uptake of care and support plans by people with osteoarthritis; and overseeing quality improvement programmes to support their implementation. Such care plans should be reviewed when there is a significant change in a person's osteoarthritis health status.

- **All front-line health and care staff, including social prescribing link workers, clinical pharmacists, health coaches and care co-ordinators should be offered accredited, short training courses that give them the knowledge and skills they need to be able to confidently support people in the community to manage their osteoarthritis.**

Front-line staff working in health and care systems need improved knowledge and skills about the needs of people with osteoarthritis and how these can be met. Training should include supporting staff to feel confident discussing physical activity with people with osteoarthritis and addressing their concerns about being active safely. Health and care professionals should be signposted to resources like Moving Medicine, the We Are Undefeatable campaign, and Let's Move with Leon programme, to help empower people with osteoarthritis to view physical activity as a tool they can use to support their health and wellbeing.

### **Innovation:**

- **National organisations with responsibility for the collection, analysis and publication of health data should develop and implement a plan to improve the coding of osteoarthritis in primary care and use this enhanced health data to understand osteoarthritis prevalence, health inequalities, treatment and outcomes at the local level.**

By focusing on improving the quality of diagnostic recording at practice-level, and linking this to treatment and outcomes, it should be possible to both explore and tackle unwarranted variation in practice and to facilitate more high-quality enable better osteoarthritis research.

- **Government agencies involved in health and care digital transformation should conduct research and pilot studies to investigate, and further develop, accredit and implement evidence-based, co-produced digital support tools and online programmes to support people with osteoarthritis.**

Learning should be taken from different health condition areas (such as the online Learning Zone offered by Diabetes UK) and activities in different countries (such as the Center for Disease Prevention and Control's Arthritis Support Programme in the US) to better equip people with osteoarthritis with the knowledge and tools they need to self-manage their condition, accessible at a time and in a format that is convenient for them.

## **Prevention:**

- **National and local bodies responsible for public health should have named, accountable leadership for musculoskeletal health promotion.**

To prevent osteoarthritis and slow down its progression, these organisations should audit their physical activity and healthy weight programmes to ensure the needs of people with osteoarthritis are being met. These programmes should work with health and care professionals, system leaders and decision makers, leisure services and activity providers and the voluntary sector, to challenge both the stigma and the passive acceptance of osteoarthritis and convey positive messages about the benefits of being physically active and maintaining a healthy weight for people with osteoarthritis.

## **Authorship and Contributions**

This report was produced by the Policy and Public Affairs team at Versus Arthritis with support from the Health Service Improvement, Professional Engagement, Digital, Research and Physical Activity teams.

The lead author was Judy Abel, and the supporting authors were Tracey Loftis, Benjamin Ellis and Joe Cryer from Revealing Reality who was also the data analyst. Additional support was provided by Patricia Stapleton, Jacqui Fowler, Jonathan Canty, Madeleine Evans Webb and Susan Wood.

Together Creative led on the graphic design supported by the Versus Arthritis Brand team.

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## References

- 1 Versus Arthritis (2021). The State of Musculoskeletal Health. Available at: <https://www.versusarthritis.org/media/24238/state-of-msk-health-2021.pdf>
- 2 Arthritis Research UK (2013) Osteoarthritis in General Practice, Data and perspectives. Available at: <https://www.versusarthritis.org/media/2115/osteoarthritis-in-general-practice.pdf>
- 3 NHS England and Improvement website, What is Personalised care? Available here: <https://www.england.nhs.uk/personalisedcare/what-is-personalised-care/>
- 4 Versus Arthritis (2019). Osteoarthritis information booklet. Available at: <https://www.versusarthritis.org/media/22908/osteoarthritis-information-booklet.pdf>
- 5 Versus Arthritis (2013). Osteoarthritis in General Practice - Data and perspective. Available at: <https://www.versusarthritis.org/media/2115/osteoarthritis-in-general-practice.pdf>
- 6 Global Burden of Disease Collaborative Network (2020). Global Burden of Disease Study 2019 (GBD 2019) Results. Institute for Health Metrics and Evaluation (IHME). Available at: <http://ghdx.healthdata.org/gbd-results-tool?params=gbd-api-2019-permalink/d4ec2aa0aca192f1ddc6512dbf07b007>
- 7 Versus Arthritis. (2019). The Musculoskeletal Calculator (modelled prevalence estimates for hip and knee osteoarthritis). Available at: <https://www.versusarthritis.org/policy/resources-for-policy-makers/musculoskeletal-calculator/>
- 8 Public Health England, Versus Arthritis, NHS (2019) Musculoskeletal Health: a 5 year strategic framework for prevention across the lifecourse. Available here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/810348/Musculoskeletal\\_Health\\_5\\_year\\_strategy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810348/Musculoskeletal_Health_5_year_strategy.pdf)
- 9 Louati, K., & Berenbaum, F. (2019). Comorbidities that impact management of osteoarthritis. Hunter D, Ramirez Curtis M, eds. UpToDate. Waltham, MA: UpToDate, Inc.
- 10 B. Stubbs, Y. Aluko, P. Kyaw Myint and TO. Smith. (2016) Prevalence of depressive symptoms and anxiety in osteoarthritis: a systematic review and meta-analysis. Age Ageing, vol. 45, no. 2, pp. 228-235. Available at: <https://academic.oup.com/ageing/article/45/2/228/2195357>
- 11 Versus Arthritis (2013). Osteoarthritis in General Practice - Data and perspective. Available at: <https://www.versusarthritis.org/media/2115/osteoarthritis-in-general-practice.pdf>
- 12 Versus Arthritis (2021). Chronic Pain in England - Unseen, Unfair, Unequal. Available at: <https://www.versusarthritis.org/media/23739/chronic-pain-report-june2021.pdf>
- 13 Versus Arthritis (2016). Working with Arthritis report. <https://www.versusarthritis.org/media/2071/working-with-arthritis-policy-report.pdf>
- 14 Versus Arthritis (2020). Back Pain in Lockdown Survey results Available upon request.
- 15 Versus Arthritis (2020). Back Pain in Lockdown Survey results Available upon request.
- 16 UK Government, DHSC/ONS/GAD/HO: Direct and indirect impacts of COVID-19 on excess deaths and morbidity – December 2020 update, 17 December 2020. Available here: <https://www.gov.uk/government/publications/dhsconsgadho-direct-and-indirect-impacts-of-covid-19-on-excess-deaths-and-morbidity-december-2020-update-17-december-2020>
- 17 B. Stubbs, Y. Aluko, P. Kyaw Myint and TO. Smith. (2016) Prevalence of depressive symptoms and anxiety in osteoarthritis: a systematic review and meta-analysis. Age Ageing, vol. 45, no. 2, pp. 228-235. Available at: <https://research-portal.uea.ac.uk/en/publications/prevalence-of-depressive-symptoms-and-anxiety-in-osteoarthritis-a>
- 18 Versus Arthritis (2021). Chronic Pain in England - Unseen, Unfair, Unequal report. Available at: <https://www.versusarthritis.org/media/23739/chronic-pain-report-june2021.pdf>
- 19 Arthritis Research UK (2017). Musculoskeletal conditions and multimorbidity. Available at: <https://www.versusarthritis.org/media/2078/msk-conditions-and-multimorbidity-report.pdf>
- 20 Tschon, M., Contartese, D., Pagani, S., Borsari, V., & Fini, M. (2021). Gender and Sex Are Key Determinants in Osteoarthritis Not Only Confounding Variables. A Systematic Review of Clinical Data. Journal of Clinical Medicine, 10(14), 3178. Available at: <https://www.mdpi.com/2077-0383/10/14/3178/htm>

- 21 NICE (2020). Osteoarthritis: care and management, Clinical guideline [CG177], Published: 12 February 2014, Last updated: 11 December 2020. Available at: <https://www.nice.org.uk/Guidance/CG177>.
- 22 The Escape-pain programme, supported by Orthopaedic Research UK. Further information available here: <https://escape-pain.org/>
- 23 Versus Arthritis website, Hip Replacement Surgery. Available here: <https://www.versusarthritis.org/about-arthritis/treatments/surgery/hip-replacement-surgery/>
- 24 National Joint Registry Centre (2021). National Joint Registry 18th Annual Report 2021. Available at: <https://reports.njrcentre.org.uk/Portals/0/PDFdownloads/NJR%2018th%20Annual%20Report%202021.pdf>
- 25 NICE (2020). Osteoarthritis: care and management, Clinical guideline [CG177], Published: 12 February 2014 Last updated: 11 December 2020. Available at: <https://www.nice.org.uk/Guidance/CG177>.
- 26 NICE (2020). Osteoarthritis: care and management, Clinical guideline [CG177], Published: 12 February 2014 Last updated: 11 December 2020. Available at: <https://www.nice.org.uk/Guidance/CG177>.
- 27 <https://www.england.nhs.uk/personalisedcare/what-is-personalised-care/>
- 28 Versus Arthritis (2020). Decision Support Tools for use in primary care by people with Musculoskeletal Conditions. Available at: <https://www.versusarthritis.org/about-arthritis/health-care-professionals/musculoskeletal-decision-support-tools/>
- 29 NHS England and Improvement. Best MSK Health programme.
- 30 Versus Arthritis (2021). The State of Musculoskeletal Health 2021 report. Available at: <https://www.versusarthritis.org/media/24238/state-of-msk-health-2021.pdf>
- 31 Versus Arthritis (2021). The State of Musculoskeletal Health 2021 report. Available at: <https://www.versusarthritis.org/media/24238/state-of-msk-health-2021.pdf>
- 32 Akesson K et al. (2003). Improved education in musculoskeletal conditions is necessary for all doctors. Bull World Health Organ 81(9): 677–683. Available at: <https://europepmc.org/article/MED/14710510>
- 33 NHS England, Health Education England (2018). Musculoskeletal core capabilities framework for first point of contact practitioner report. Available at: [https://www.csp.org.uk/system/files/musculoskeletal\\_framework2.pdf](https://www.csp.org.uk/system/files/musculoskeletal_framework2.pdf)
- 34 Chou, L., Ellis, L., Papandony, M., Seneviwickrama, K. M. D., Cicuttini, F. M., Sullivan, K., ... & Wluka, A. E. (2018). Patients' perceived needs of osteoarthritis health information: A systematic scoping review. PLoS One, 13(4), e0195489. Available at: <https://core.ac.uk/download/pdf/195691708.pdf>
- 35 Maloney, S., Ilic, D., & Green, S. (2005). Accessibility, nature and quality of health information on the Internet: a survey on osteoarthritis. Rheumatology, 44(3), 382–385. Available at: <https://research.monash.edu/en/publications/accessibility-nature-and-quality-of-health-information-on-the-int>
- 36 Claassen, A. A., Kremers–van de Hei, K. C., van den Hoogen, F. H., van der Laan, W. H., Rijnen, W. H., Koëter, S., ... & van den Ende, C. H. (2019). Most Important Frequently Asked Questions From Patients With Hip or Knee Osteoarthritis: A Best Worst Scaling Exercise. Arthritis care & research, 71(7), 885–892. Abstract available here (hyperlinked): <https://www.narcis.nl/publication/RecordID/oai%3ARepository.ubn.ru.nl%3A2066%2F205504>
- 37 Aniek A. O. M. Claassen, A. A., Kremers–van de Hei, K. C., van den Hoogen, F. H., van der Laan, W. H., Rijnen, W. H., Koëter, S., ... & van den Ende, C. H. (2018). Most Important Frequently Asked Questions From Patients With Hip or Knee Osteoarthritis: A Best Worst Scaling Exercise. Arthritis care & research, 71(7), 885–892. Available at: <https://onlinelibrary.wiley.com/doi/10.1002/acr.23719>
- 38 Diabetes UK. Learning Zone Online Platform. Accessible here: <https://learningzone.diabetes.org.uk/>
- 39 The US Center for Disease Control and Prevention website, CDC-Funded State Arthritis Programs
- 40 Versus Arthritis website, Arthritis Tracker: An app for teens and young adults. Further information available here: <https://www.versusarthritis.org/about-arthritis/young-people/arthritis-tracker/>

- 41 Versus Arthritis (2021). Stories of Change – Group education sessions giving options, advice, knowledge (OAK) for people with osteoarthritis of the knee across Gwent <https://www.versusarthritis.org/media/23710/options-advice-knowledge-oa-knee-back-pain-south-wales.pdf>
- 42 Versus Arthritis (2021). Stories of Change – A new approach to supporting people with arthritis in NHS Forth Valley through better information, advice and exercise. Available here: <https://www.versusarthritis.org/media/23704/best-in-class-for-lower-limb-oa-forth-valley.pdf>
- 43 Gohir, S. A., Eek, F., Kelly, A., Abhishek, A., & Valdes, A. M. (2021). Effectiveness of Internet-Based Exercises Aimed at Treating Knee Osteoarthritis: The iBEAT-OA Randomized Clinical Trial. JAMA network open, 4(2), e210012-e210012. Available here: <https://pubmed.ncbi.nlm.nih.gov/33620447/>
- 44 Dahlberg, L. E., Dell'Isola, A., Lohmander, L. S., & Nero, H. (2020). Improving osteoarthritis care by digital means-Effects of a digital self-management program after 24-or 48-weeks of treatment. PloS one, 15(3), e0229783. Available here: <https://pubmed.ncbi.nlm.nih.gov/32130276/>
- 45 Gilbert A.W., Jones J., Jaggi A and May C R. (2020) Use of virtual consultations in an orthopaedic rehabilitation setting: how do changes in the work of being a patient influence patient preferences? A systematic review and qualitative synthesis, BMJ Open Vol 10, Issue 9. Available here: <https://bmjopen.bmj.com/content/10/9/e036197>
- 46 NICE (2015). Osteoarthritis Quality Standard [QS87]. Published: 11 June 2015. Available at: <https://www.nice.org.uk/guidance/qs87>
- 47 Keele University (2020). Keele Research to Improve the Lives of People with Musculoskeletal Conditions. <https://www.keele.ac.uk/research/researchnews/2020/april/million-funding-for-improve-msk-care.php>
- 48 Versus Arthritis (2021). The State of Musculoskeletal Health 2021 report. Available here: <https://www.versusarthritis.org/media/24238/state-of-msk-health-2021.pdf>
- 49 Arthritis Research UK (2014). Musculoskeletal health – a public health approach. Available here: <https://www.versusarthritis.org/media/2179/public-health-guide.pdf>
- 50 NICE (2020). Osteoarthritis: care and management, Clinical guideline [CG177], Published: 12 February 2014 Last updated: 11 December 2020. Available at: <https://www.nice.org.uk/Guidance/CG177>.
- 51 Reid, H., Ridout, A. J., Tomaz, S. A., Kelly, P., & Jones, N. (2021). Benefits outweigh the risks: a consensus statement on the risks of physical activity for people living with long-term conditions. British Journal of Sports Medicine. Available here: <https://bjsm.bmj.com/content/bjsports/early/2021/10/21/bjsports-2021-104281.full.pdf>
- 52 Michie, S., Atkins, L., & West, R. (2014). The behaviour change wheel. A guide to designing interventions. 1st ed. Great Britain: Silverback Publishing, 1003-1010.
- 53 Kanavaki, A. M., Rushton, A., Efstathiou, N., Al-rushud, A., Klocke, R., Abhishek, A., & Duda, J. L. (2017). Barriers and facilitators of physical activity in knee and hip osteoarthritis: a systematic review of qualitative evidence. BMJ open, 7(12), e017042. Available here: <https://bmjopen.bmj.com/content/bmjopen/7/12/e017042.full.pdf>
- 54 Versus Arthritis (2021). Supporting people with musculoskeletal conditions to stay physically active. Available here: <https://www.versusarthritis.org/media/24040/physical-activity-msk-health-policy-document.pdf>
- 55 A Spink, I Wagner, P Orrock. (2021). Common reported barriers and facilitators for self-management in adults with chronic musculoskeletal pain: a systematic review of qualitative studies. Musculoskeletal Science and Practice, Volume 56, December 2021,102433. Available here: <https://www.sciencedirect.com/science/article/abs/pii/S246878122100117X>
- 56 Versus Arthritis (2019). Musculoskeletal conditions and physical activity - Scoping Research (Unpublished – data available upon request).
- 57 Reid, H., Ridout, A. J., Tomaz, S. A., Kelly, P., & Jones, N. (2021). Benefits outweigh the risks: a consensus statement on the risks of physical activity for people living with long-term conditions. British Journal of Sports Medicine. Available here: <https://bjsm.bmj.com/content/bjsports/early/2021/10/21/bjsports-2021-104281.full.pdf>



- 58 Versus Arthritis (2020). Let's Move with Leon programme. Available here: <https://www.versusarthritis.org/about-arthritis/exercising-with-arthritis/lets-move-with-leon/>
- 59 Versus Arthritis (2021). Let's Move with Leon Impact Analysis: September 2020 – January 2021 (Unpublished – data available upon request).
- 60 Arthritis Research UK (2014). Musculoskeletal health – a public health approach. Available at: <https://www.versusarthritis.org/media/2179/public-health-guide.pdf>
- 61 Scarborough, P., Bhatnagar, P., Wickramasinghe, K. K., Allender, S., Foster, C., & Rayner, M. (2011). The economic burden of ill health due to diet, physical inactivity, smoking, alcohol and obesity in the UK: an update to 2006–07 NHS costs. *Journal of public health*, 33(4), 527–535. Available here: <https://academic.oup.com/jpubhealth/article/33/4/527/1568587>
- 62 Sports England. We are Undefeatable. Accessed here: <https://www.sportengland.org/news/new-we-are-undefeatable-research-and-re-sources>
- 63 Versus Arthritis (2019). Musculo skeletal conditions and physical activity – Scoping Research (Unpublished- data available upon request).
- 64 A Spink, I Wagner, P Orrock. (2021). Common reported barriers and facilitators for self-management in adults with chronic musculoskeletal pain: a systematic review of qualitative studies. *Musculoskeletal Science and Practice*, Volume 56, December 2021,102433. Available here: <https://www.sciencedirect.com/science/article/abs/pii/S246878122100117X>
- 65 Public Health England, Versus Arthritis, NHS (2019) Musculoskeletal Health: a 5 year strategic framework for prevention across the lifecourse. Available here: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/810348/Musculoskeletal\\_Health\\_5\\_year\\_strategy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810348/Musculoskeletal_Health_5_year_strategy.pdf)



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