



The burden of Chronic Pain in Bristol, North Somerset and South Gloucestershire

Findings from the Bristol North Somerset and South
Gloucestershire (BNSSG) System Wide Dataset - a linked
population health management dataset

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Glossary

Term	Definition
Cambridge Multimorbidity Score (CMS)	The CMS is a validated, condition-weighted score that predicts risk of death, unplanned hospital admission and use of GP consultations in adults at 1 and 5 years, based on the presence of diagnosed illness
Confidence interval	A confidence interval is a range of values that is used to quantify the imprecision in the estimate of a particular value. It quantifies the imprecision that results from random variation in the estimation of the value ¹ .
Deprivation	The unequal distribution of resources, opportunities which include the social determinants of health such as employment, education and where we live.
Indirectly age standardised rates	The age-specific rates of a chosen standard population (usually the relevant national or regional population) are applied to the age structure of the subject population to give an expected number of events. The observed number of events is then compared to that expected and is usually expressed as a ratio (observed/expected). A common example is the standardised mortality ratio (SMR) ² .
Most/least deprived fifth	<p>The Index of Multiple Deprivation (IMD) is a measure of relative deprivation for small, fixed geographic areas of the UK (Lower Layer Super Output Areas).</p> <p>Areas can be classified into five quintiles or 'fifths' based on relative disadvantage as measured by the IMD.</p>
Population health	An approach aimed at improving the health of an entire population. It is about improving the physical and mental health outcomes and wellbeing of people within and across a defined local, regional or national population, while reducing health inequalities. It includes action to reduce the occurrence of ill health, action to deliver appropriate health and care services and action on the wider determinants of health. It requires working with communities and partner agencies ³ .
Prevalence	The number of cases of a disease or condition in a defined population over a given time period.
System Wide Dataset	The BNSSG System Wide Dataset is a linked pseudonymised dataset containing data from primary care, secondary care, mental health and community services, social care, and other sources.

1 APHO (2010) Technical Briefing: Commonly used public health statistics and their confidence intervals

2 Technical Briefing: Commonly Used Public Health Statistics - Public Health England

3 A vision for population health | The King's Fund (kingsfund.org.uk)

Acronyms

BMI Body Mass Index

BNSSG Bristol North Somerset and South Gloucestershire

CMS Cambridge Multimorbidity Score

DHSC Department of Health and Social Care

ICD-10 International Classification of Diseases 10th Revision

ICS Integrated Care System

MSK Musculoskeletal

OHID Office for Health Improvement and Disparities

ONS Office for National Statistics

UKHSA UK Health Security Agency

About this report

Purpose

The purpose of this briefing is to explore the profile and characteristics of the population living with chronic pain across Bristol, North Somerset and South Gloucestershire and the burden of chronic pain from a population health perspective.

It follows initial analytical work for BNSSG Clinical Cabinet in 2022 and the identification of chronic pain as a key impact on health of our population in the [Our Future Health report](#) published in 2022.

It aims to:

- Improve knowledge about the population affected by chronic pain, including demographics, comorbidities, prescribing patterns, referral patterns, fit notes, access to chronic pain services
- Identify inequalities in management of chronic pain or in access to chronic pain services
- Consider how chronic pain services could be designed more effectively in BNSSG

Scope

This technical briefing provides a summary of people living with chronic pain as at April 2023. Health care usage and activity data is provided for a three year period between April 2020 and March 2023.

See also: [Data Considerations and Limitations](#)

Key messages

Chronic pain is common and affects people across the life course

- 1 in 10 people in BNSSG are living with chronic pain.
- There are high numbers of people with chronic pain in the working age population.
- It is estimated nationally that the numbers of people living with chronic pain will grow significantly by 2040. This means poorer health for individuals and increasing costs for the system.

The burden of chronic pain is not shared equally

- There is a 20 year inequality gap in the prevalence of chronic pain. People in the most deprived areas have the same levels of chronic pain in their early 40's as people in the least deprived areas in their late 60's.
- People in the most deprived areas, women and some minority ethnic groups are disproportionately affected by chronic pain.
- People who are homeless are 4 times more likely to have chronic pain when compared to the overall population and people who have a Learning Disability are 2.4 times more likely to be living with chronic pain.

People living with chronic pain often have multiple other conditions

- Chronic pain clusters with conditions such as anxiety, depression, high blood pressure and diabetes. There are high numbers of people living with chronic pain who have multiple conditions.
- Investment and planning is required to manage this in the future including service redesign, embracing new ways of working such as multi-disciplinary team approaches and support for primary care and community delivery models.
- Prevention and improving wellbeing can be delivered at every stage. Managing chronic pain at the earliest opportunity can reduce long term illness, disability and the medicalisation of pain.

Data Considerations and Limitations

Definition: Chronic pain is defined as per the BNSSG Cambridge Multimorbidity Score: as having four prescriptions for pain medication in 12 months (for one or more of the Non-steroidal anti-inflammatory drugs(NSAIDs), opioids, neuropathic pain medications listed in the appendix), but excluding some medications where a person is also diagnosed with epilepsy.

Specific inclusions / exclusions:

Excluded population: aged under 17, people on an end of life or a palliative care pathway.

Included population: patients **registered** to consenting BNSSG GP practices (please note some practices are excluded, as detailed below).

Data Sources: BNSSG System Wide Dataset (SWD)

PHM Reference: PHM_230406_01 Chronic pain v2

Data Quality Comments:

System Wide Dataset (SWD) The analysis for this briefing has come from the BNSSG SWD which is a linked pseudonymised dataset containing data from primary care, secondary care, mental health and community services, social care, and other sources. This helps to build a better understanding of people's health, the circumstances in which they live, their needs, and the type of care they receive. Find out more here: [Population Health Management - NHS BNSSG ICB](#)

System Wide Dataset (SWD) – opt Outs: No practices opted out of sharing their data for this project. However, the following practices are excluded either because they opted out of the Core Segmentation project (which calculated the Cambridge Multimorbidity Score (CMS) and is used to determine the chronic pain cohort), or because their data submissions were missing for the period.

Excluded practices are: L81017 (Westbury On Trym Primary Care Centre), L81036 (Coniston Medical Practice), L81041 (Hillview Family Practice), L81067 (Southmead & Henbury Family Practice), L81086 (Mendip Vale Medical Practice), L81120 (Birchwood Medical Practice), L81669 (Monks Park Surgery), and they make up 9.5% of the entire BNSSG registered population.

There will also be data missing for anyone who has personally opted out of sharing their data and this could be with any practice. In BNSSG, opt out rates vary across practices from 2% to 15%.

It is recognised that this analysis is based on quantitative data only and does not include any qualitative data to bring insights or lived experience of chronic pain. As such it is not in itself a full needs assessment.

What is Chronic Pain?

Chronic pain is defined as pain that has been present for more than 12 weeks.

It is a complex phenomenon and can impact on quality of life and can cause significant suffering and disability, which is common in people living with chronic primary pain.

Chronic primary pain is pain that has no clear underlying condition. The types of chronic primary pain include complex regional pain syndrome, fibromyalgia (chronic widespread pain), primary headache and orofacial pain, primary visceral, and primary musculoskeletal pain.

Secondary pain is caused by an underlying condition, such as endometriosis, osteoarthritis, rheumatoid arthritis, and ulcerative colitis. This can be organised into 6 pain categories: cancer-related, neuropathic, post-surgical or post-traumatic, secondary headache or orofacial, secondary musculoskeletal, and secondary visceral⁴

Musculoskeletal (MSK) conditions such as osteoarthritis, back and neck pain, and fibromyalgia are the commonest cause of chronic pain and disability in the UK⁵

“ Pain is described as an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.
NICE 2022 ”

Chronic pain in BNSSG is defined as having four prescriptions for pain medications in a 12 month period

Who is at risk?

National data shows that chronic pain affects approximately 15.5 million individuals in the UK (34% of the population)⁵. It is higher among those aged 45 and above. An estimated, 5.6 million people (13%) in England rely on opioid pain medications.

Common sites of chronic pain include arms, hands, hips, legs, feet, back, and neck or shoulder. 36% of chronic pain sufferers also have a long-lasting musculoskeletal condition, while 15% report a mental health disorder, and 14% report a heart or circulatory condition⁷.

Individuals experiencing chronic pain that has a high interference⁶ in daily activities are twice as likely to be living in the most deprived areas than the least deprived areas. People with a higher body mass index (BMI of 30 or above) report higher rates of chronic pain⁷.

People in routine and manual jobs report higher rates of chronic pain at around 40% compared to 25% in managerial and professional jobs⁷.

⁴ NICE Treatment Summaries [Pain, chronic | Treatment summaries | BNF | NICE](#)

⁵ Chronic pain in England: Unseen, unequal, unfair (2021) Versus Arthritis. <https://www.versusarthritis.org/about-arthritis/data-and-statistics/chronic-pain-in-england>

⁶ interference in daily life activities and reduced participation in social roles

Is there any variation across demographic groups?

National data shows that there is inequality in chronic pain rates across different demographic groups. Women have higher rates of chronic pain compared to men, with 38% of women affected compared to 30% of men⁷. Where women are living with chronic pain, they are more likely to report high-impact chronic pain at around 14% compared to 9% of men⁵.

There are also variations among different ethnic groups, with Black ethnic groups showing a significantly higher rate of chronic pain at 44%, compared to the overall average of 34%⁷.

People living in more deprived areas report higher rates of chronic pain. Individuals in the most deprived areas (IMD1) are more likely to suffer from chronic pain, with rates reaching 41% compared to 31% in the least deprived areas (IMD5). Prescribing rates for opioid pain medicines and gabapentinoids are also strongly associated with deprivation, with higher rates of prescribing observed in areas of higher deprivation⁷.

What is the impact?

Individual: Chronic pain has a significant impact on peoples' lives. It is linked to negative outcomes including depression, job loss, reduced quality of life, impairment of function and limiting daily activities⁷. People can lose independence, and ability to engage in social activities which can affect mental wellbeing⁵. Chronic pain has impacts beyond the individual, such as the additional support required from families, friends and carers⁵.

Societal: It is estimated that nationally, 30 million working days are lost due to musculoskeletal conditions every year in the UK and they also account for around 30% of all GP consultations in England⁸.

National research shows that people who are unable to work due to long-term sickness or disability are more likely to experience chronic pain and are less likely to be in employment compared to people who did not have chronic pain⁷. Pain is the second most common reason for claiming incapacity benefit, costing £3.8 billion annually⁹. Around two fifths of people aged between 45-54 years report experiencing chronic pain, which can impact the individual physically and more widely through economic impacts by needing to take time off work⁷.

Healthcare system: Chronic pain is costly for the health and care system, both financially and for resources. It is estimated that £584 million a year is spent on prescriptions for pain⁹. Chronic pain accounts for 4.6 million GP appointments per year⁹. Nationally, annual healthcare costs for patients with chronic low back pain are double those of the overall population (£1,074 vs. £516)⁹.

⁷ [Chronic pain in adults 2017: Health Survey for England \(publishing.service.gov.uk\)](#)

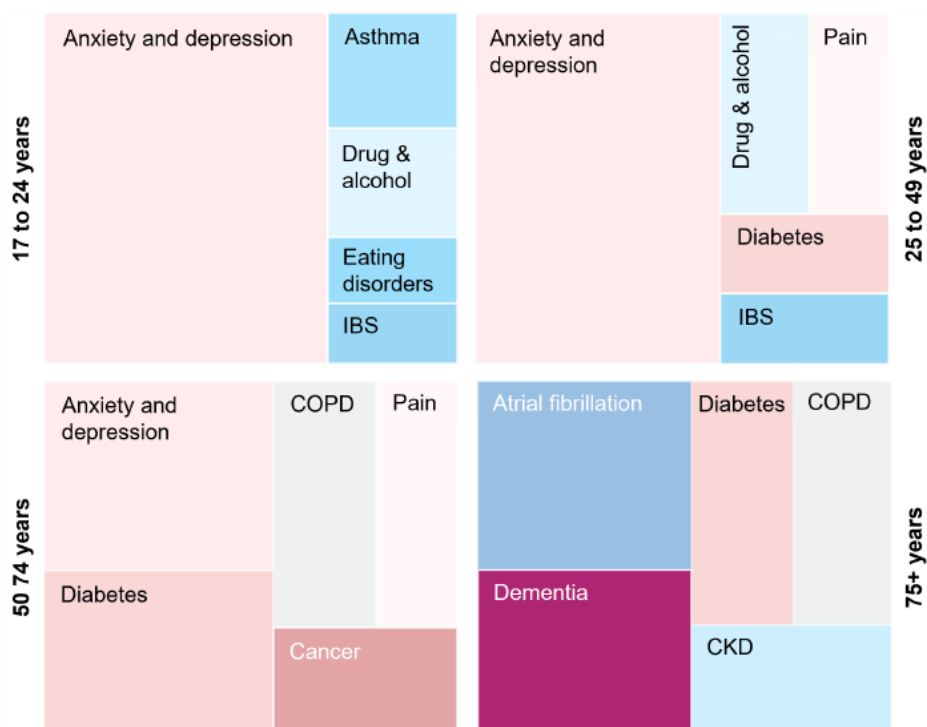
⁸ [NHS Long Term Plan » Short waits for planned care](#)

⁹ [Physiotherapy works: Chronic pain | The Chartered Society of Physiotherapy \(csp.org.uk\)](#)

What do we already know about Chronic Pain in BNSSG?

The [Our Future Health report](#)¹¹ highlighted the significant impact that chronic pain has throughout the life course of people in BNSSG. Chronic pain is the second most impactful condition among adults in BNSSG and also features strongly across the life course as shown in Figure 1, particularly in the working age population.

Figure 1 Top 5 impactful conditions across the life course in BNSSG¹¹



Produced by BNSSG ICB (BI, PHM Team)

To date, there has been no coordinated system approach to chronic pain across BNSSG as it has been difficult to count and study the prevalence of chronic pain using routine data.

An initial analysis of chronic pain using the system wide dataset for those over 18 years of age, defined as having four prescriptions for pain medications in 12 months (for one or more of NSAIDs, opioids, neuropathic pain medications, but excluding drugs for migraine or gout) was undertaken in 2022. It found that chronic pain in BNSSG:

- Is the second most impactful condition on health in BNSSG after anxiety/depression, and the most impactful in the over 50's
- Chronic pain affects 1 in 10 people in BNSSG
- Is distributed unequally in the population:
 - Chronic pain is higher women and in areas of high deprivation
 - There are differences by geographical area
 - There are differences in rates by different ethnic groups

Chronic pain is costly. Healthcare costs per head of population are 5 times higher for people living with chronic pain compared to those without.

What does the population living with Chronic Pain look like in BNSSG?

Over 1 million people live in Bristol, North Somerset and South Gloucestershire. The ICS is composed of 3 places (Bristol, North Somerset and South Gloucestershire) and 6 localities (Figure 2).

The population is diverse with regards to many factors including but not limited to:

- Age profile
- deprivation
- ethnicity

For example, the population in Bristol is younger with an average age of 30 compared to 46 in North Somerset and 40 in South Gloucestershire.

Black and minority ethnic groups account for 19% of the population in Bristol, this compares to 4% of the population in North Somerset and 9% of the population in South Gloucestershire¹⁰.

There are wide variations in deprivation; larger proportions of Bristol are considered as being some of the most deprived compared to North Somerset and South Gloucestershire.

Where possible, data is provided at locality level in some scenarios. For meaningful and fair comparison of areas to be made, rates have been age standardised¹¹.

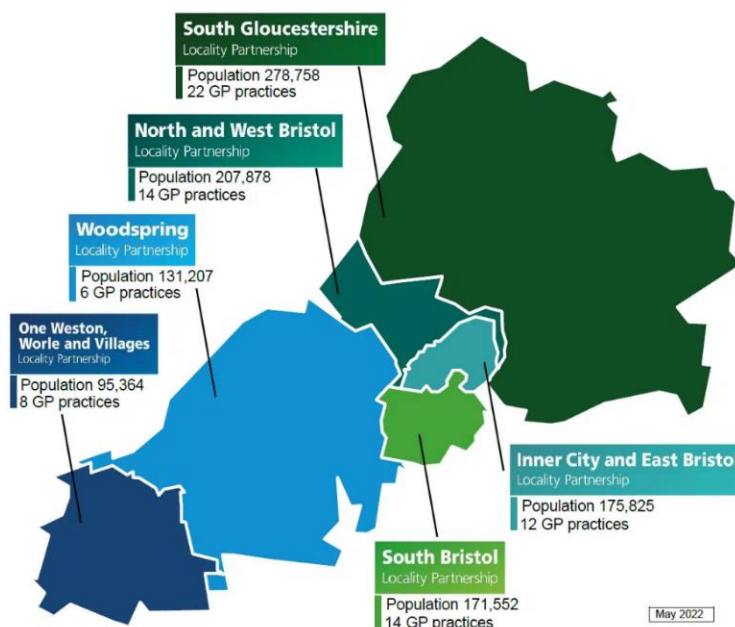


Figure 2 Localities and the registered population within BNSSG¹²

Around one in ten people in BNSSG are living with Chronic Pain

Primary care records show that at least **70,631** patients in BNSSG, out of a registered population aged 17+ of **776,880**, live with chronic pain.

10 Office for National Statistics - Census 2021: Ethnic group classification
11 BNSSG Strategic Needs Assessment - Our Future Health 2022
12 Locality Partnerships - NHS BNSSG ICB

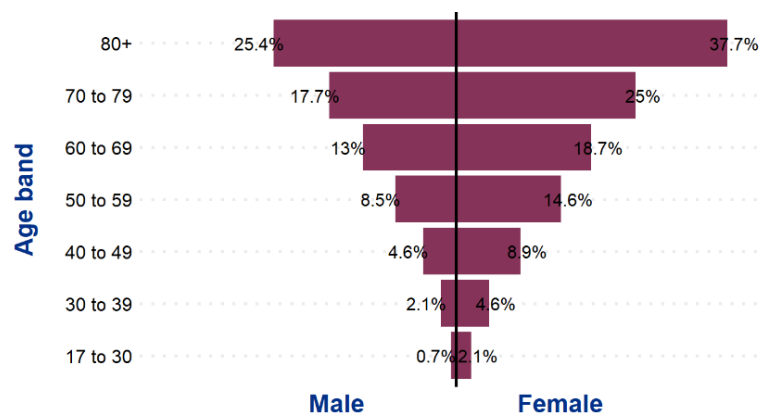
How does Chronic Pain vary by age, gender, ethnicity, deprivation and where people live across BNSSG?

Age and Gender

Chronic pain has an impact across the whole life course. Chronic pain is higher in females and increases with age. There are 44,554 females (63.1% of cohort) and 26,077 males (36.9% of cohort) living with chronic pain in BNSSG.

60% of the population with chronic pain is aged 60 or over. There are also high numbers of working age people living with chronic pain (Figure 3).

Figure 3: Prevalence of Chronic Pain by Age and Gender in BNSSG (% , 2022-23)



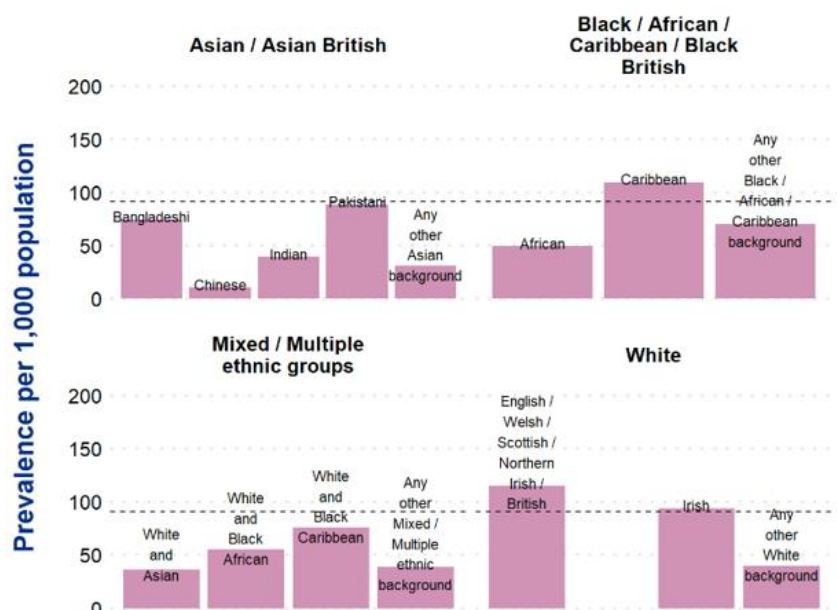
Produced by BNSSG ICB (BI, PHM Team)

Ethnicity

The White ethnic group has the highest rates of chronic pain at main ethnic group level. At specific ethnic group level, as shown in Figure 4, the Caribbean group also has a prevalence higher than the BNSSG average (shown by the dotted line).

There are also groups where prevalence of Chronic Pain is lower than the BNSSG average, including in the Asian/Asian British group and also Mixed/Multiple ethnic groups.

Figure 4: Prevalence of Chronic Pain by ethnicity (rates per 1,000 population, 2022-23)



Produced by BNSSG ICB (BI, PHM Team)

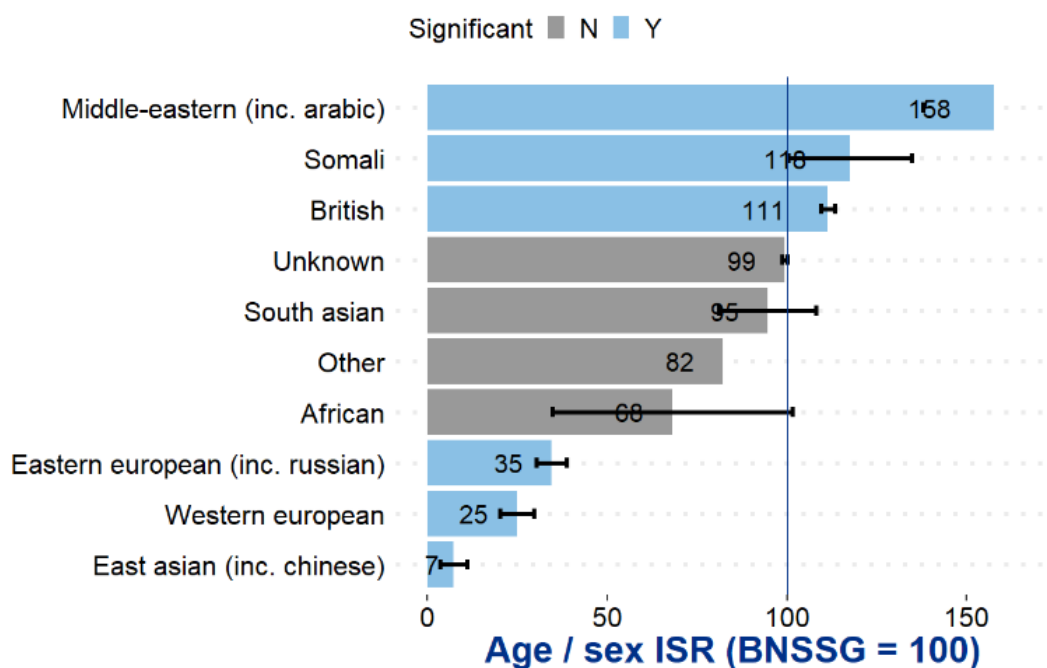
Primary language spoken

Figure 5 shows indirectly standardised rates of chronic pain by primary language spoken in the chronic pain cohort. Standardisation is a statistical method that helps make a fair comparison between groups by adjusting for the differences in age and sex, therefore identifying actual variations in health outcomes between different groups.

The following indirectly standardised rates (ISRs) use the entire BNSSG registered population included in this analysis as the comparator population. If the group being compared has the same chronic pain prevalence as BNSSG they would have an ISR of 100, higher than 100 indicates they have a higher prevalence of chronic pain.

Figure 5 shows that people with Middle eastern including Arabic or Somali as their primary language spoken had a significantly higher prevalence of chronic pain, compared to the BNSSG population overall. Eastern European, Western European and East Asian all had significantly lower rates of chronic pain on their primary care record.

Figure 5: Primary language spoken (Indirectly standardised rate, 2022-23)



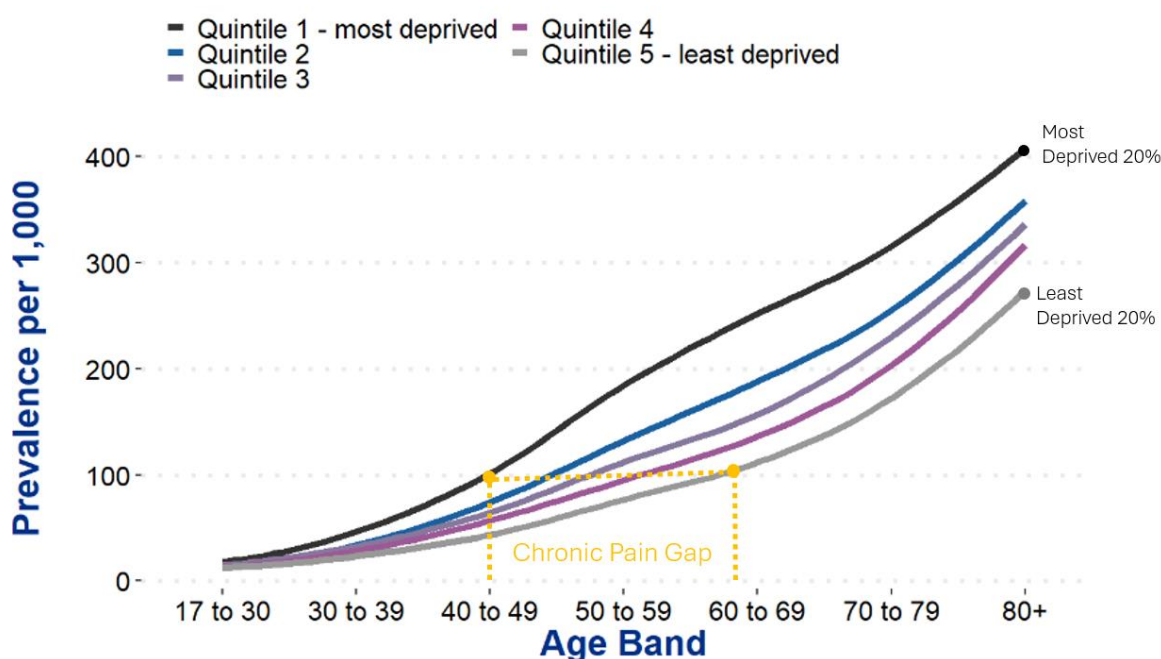
Produced by BNSSG ICB (BI, PHM Team)

Deprivation

There is a clear relationship between deprivation and rates of chronic pain in BNSSG. People living in an area of high deprivation are more likely to be living with chronic pain. The prevalence of painful conditions is higher in the most deprived areas. This gap starts to widen as early as age 30 and continues throughout the life course.

There is a 20 year inequality gap in the prevalence of chronic pain. People in the most deprived areas have the same levels of chronic in their early 40's as people in the least deprived areas in their late 60's

Figure 6 Prevalence of Chronic Pain by age and deprivation quintile (rate per 1,000, 2022-23)



Produced by BNSSG ICB (BI, PHM Team)

Figure 6 shows the variation by age and deprivation. For example, in the 50 to 59 age group, prevalence of chronic pain per 1,000 population is 184.1 for the most deprived IMD quintile, compared to 76.6 in the least deprived areas.

This means that in the 50 to 59 age group, **people living in the most deprived areas are 2.4 times more likely to be living with chronic pain than those in the least deprived areas.**

Variation by Geography: Locality

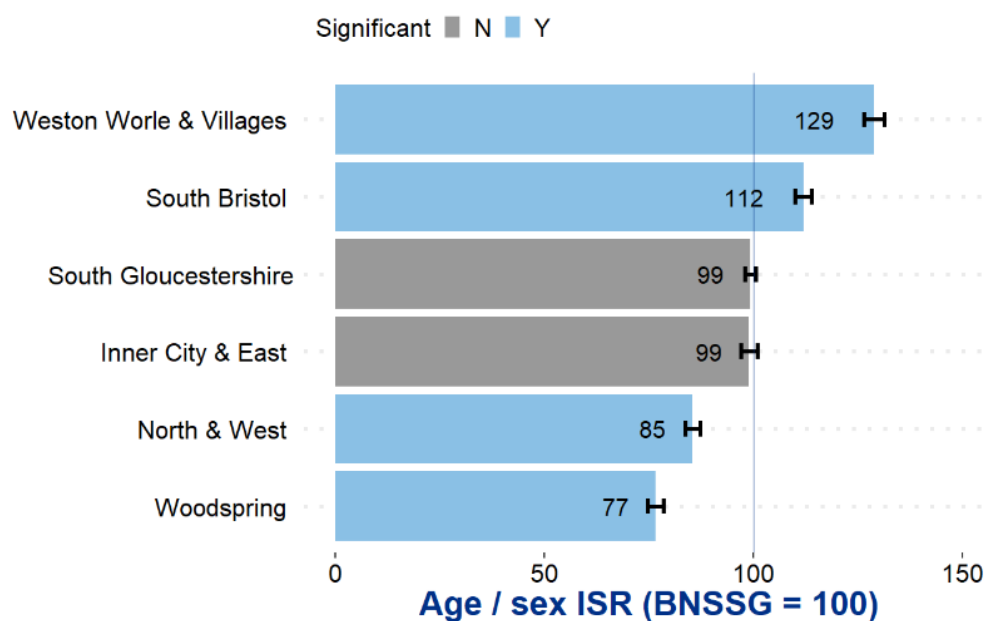
Figure 7 below shows indirectly rates of chronic pain by Locality area. Standardisation is a statistical method that helps make a fair comparison between groups by adjusting for the differences in age and sex, therefore identifying actual variations in health outcomes between different groups.

The following indirectly standardised rates (ISRs) use the entire BNSSG registered population included in this analysis as the comparator population. If the group being compared has the same chronic pain prevalence as BNSSG they would have an ISR of 100, higher than 100 indicates they have a higher prevalence of chronic pain.

Figure 7 shows that the Weston Worle & Villages, and South Bristol localities have significantly higher rates of chronic pain when compared to the BNSSG average. This probably reflects the higher levels of deprivation in those localities.

Analysis also shows that Inner City and East has particularly high chronic pain prevalence in the 80+ age group, and Weston, Worle and villages and South Bristol have higher prevalence in the 40 to 59 year old group.

Figure 7 Prevalence of Chronic Pain by Locality (Indirectly standardised rate, 2022-23)



Produced by BNSSG ICB (BI, PHM Team)

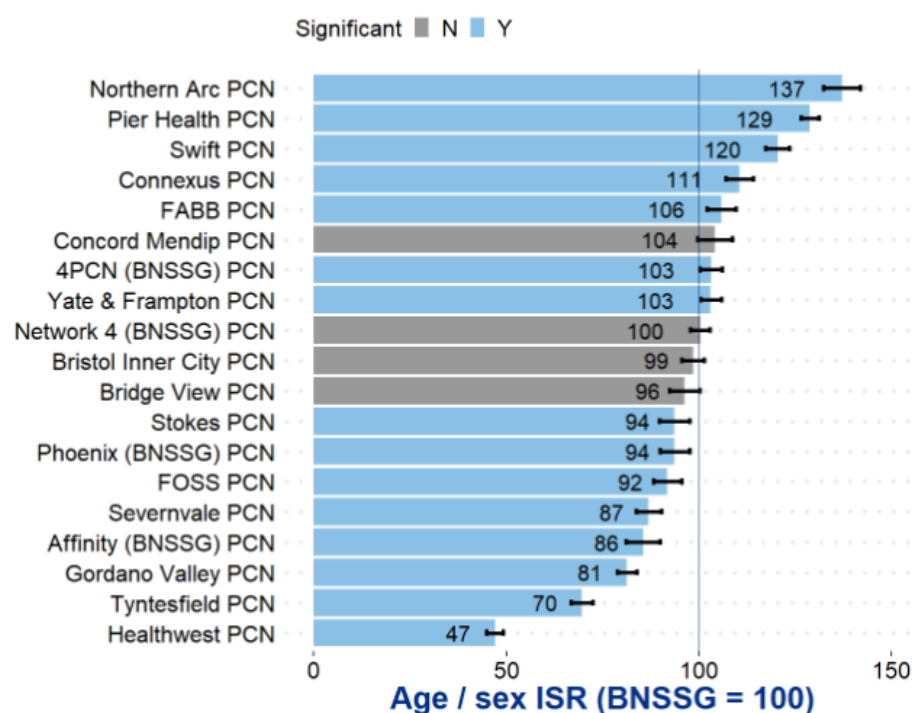
Variation by Geography: Primary Care Network

Figure 8 below shows indirectly rates of chronic pain by Primary Care Network (PCN). Standardisation is a statistical method that helps make a fair comparison between groups by adjusting for the differences in age and sex, therefore identifying actual variations in health outcomes between different groups.

The following indirectly standardised rates (ISRs) use the entire BNSSG registered population included in this analysis as the comparator population. If the group being compared has the same chronic pain prevalence as BNSSG they would have an ISR of 100, higher than 100 indicates they have a higher prevalence of chronic pain.

Figure 8 shows that the Primary Care Networks (PCNs) with significantly higher rates of chronic pain than the BNSSG average are Northern Arc PCN, Pier Health PCN and Swift PCN.

Figure 8 Prevalence of Chronic Pain by Primary Care Network (Indirectly standardised rate, 2022-23)



Produced by BNSSG ICB (BI, PHM Team)

Variation by Geography: Middle Super Output Areas

Analysis was also carried out looking at Middle Super Output Areas (MSOAs). The top three areas with the highest rates of chronic pain across BNSSG are Weston Bournville which had rates 2 times higher than the BNSSG average, Hartcliffe where rates were 1.9 times higher, and Knowle West with rates 1.8 times higher.

Commonly occurring conditions in people living with Chronic Pain in BNSSG

Using the System Wide Dataset, it is possible to look at a number of different long term health conditions, health behaviours and lifestyle factors among people living with chronic pain.

The analysis shows **the most commonly occurring conditions** in those within the chronic pain cohort **are anxiety depression, high blood pressure and diabetes.**

People with chronic pain are more likely to be current smokers. 14.7% of people with chronic pain smoke, compared to 10.8% of the rest of the population.

People with chronic pain are much more likely to be very overweight. 35.1% of people with chronic pain have a BMI of 30+, compared to 13.4% of the rest of the population.

There are higher numbers of people living with chronic pain who have multiple conditions, for example, high blood pressure with anxiety and depression (15.2 vs 2.1), which is a bigger difference than for smoking and high blood pressure with diabetes (13.2 vs 2.7) when compared to the overall population.

Figure 10: Variation of prevalence within different groups of people living with Chronic Pain

SOME GROUPS HAVE A HIGHER PREVALENCE OF CHRONIC PAIN

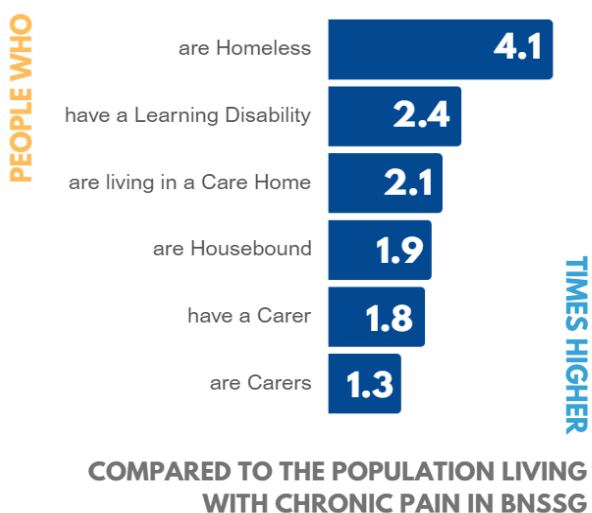
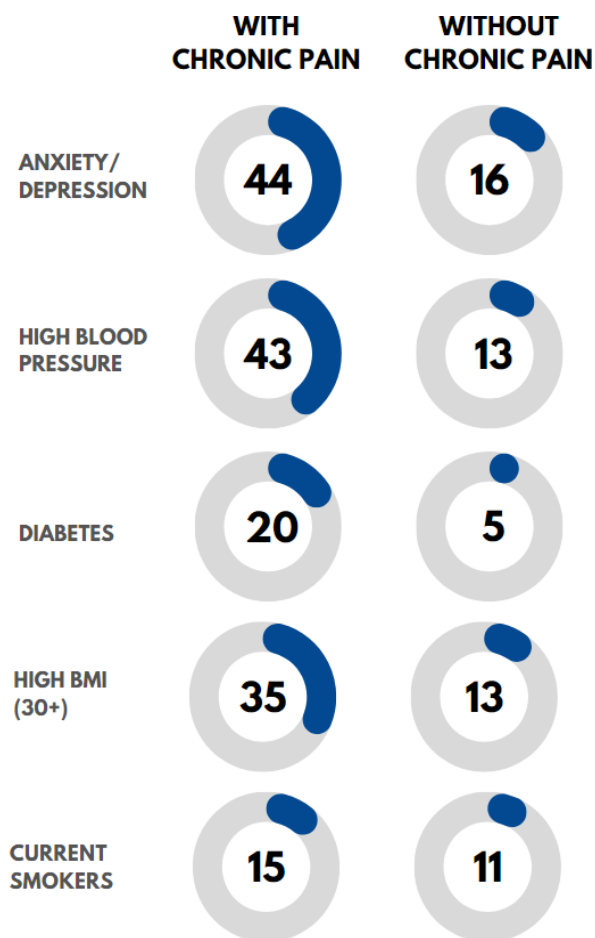


Figure 9: Commonly occurring conditions for people living with Chronic Pain (% , 2022-23)



Produced by Population Health Improvement Specialist Team

Figure 10 shows there are other large differences in characteristics between groups of people living with chronic pain in BNSSG.

People who are homeless are 4 times more likely to have chronic pain when compared to the overall population and people who have a Learning Disability are 2.4 times more likely to be living with chronic pain.

Cambridge Multimorbidity Score and BNSSG Population Segmentation Model¹³

ALMOST A THIRD OF THE POPULATION LIVING WITH CHRONIC PAIN IN BNSSG ARE IN POPULATION SEGMENT 4 OR 5, COMPARED TO 2.5% OF THE REST OF THE POPULATION.

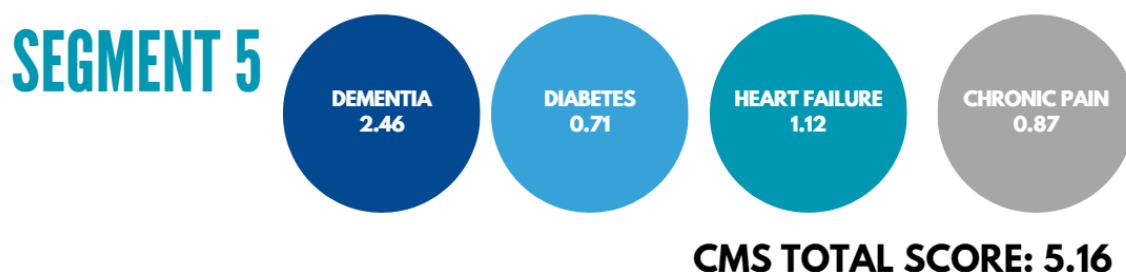
Multimorbidity is the presence of two or more long-term health conditions. Multimorbidity can be linked to lower life expectancy and reduced quality of life, increase in mental health difficulties for example anxiety and depression and can lead to increased use in health care services, including emergency care¹⁴. MSK conditions are a common entry point to multi-morbidity, for example, chronic pain to osteoarthritis to depression¹⁵.

Multi-morbidity is expected to increase in England across all age groups by 2040¹⁶ with chronic pain accounting for a 32% increase.

In BNSSG, health status of the population is estimated using the Cambridge Multimorbidity Score (CMS)¹⁷ which is based on diagnosed long-term illness in GP records. There are [37 conditions](#) that make up the CMS score for an individual. Each condition is weighted, for example, chronic pain has a weighting of 0.87 and dementia 2.46 as shown in Figure 11 below.

BNSSG's adult population aged 17 and over are segmented into 5 groups based on the presence of diagnosed illness using the CMS score. Segment 1 contains the healthiest members of the BNSSG population, and segment 5 the least healthy.

Figure 11 Example of Cambridge Multimorbidity Score



National Context

A National review of chronic pain undertaken by Public Health England showed that the rates of chronic pain increase with the number of long-lasting illnesses reported, with multimorbidity defined as having 2 or more long-lasting illnesses.

Of those that reported 2 or more long-lasting illnesses, 65% said they were in chronic pain. 41% of those reporting one long-lasting illness were in chronic pain. Chronic pain was also linked to anxiety and depression⁷.

A multidisciplinary approach to chronic pain management which addresses all the areas related to chronic pain would therefore be beneficial during treatment⁷.

¹³ Wood et al (2023) Development and practical use of a risk-sensitive population segmentation model for healthcare service planning: Application in England

¹⁴ NICE (2023) Multimorbidity | Health topics A to Z | CKS

¹⁵ ARMA (2024) Act Now: Musculoskeletal Health Inequalities and Deprivation (arma.uk.net)

¹⁶ The Health Foundation (2024) Health inequalities in 2040: projected patterns of illness in England

¹⁷ Rupert et al (2020) Development and validation of the Cambridge Multimorbidity Score | CMAJ

Prescribing

In BNSSG, there were over 1.1 million pain prescriptions dispensed, totalling £5.2 million in costs annually between April 2020 and March 2023. The analysis also showed that the average person with chronic pain receives six prescriptions per year, amounting to an average annual cost of £27 per person.

Polypharmacy is also prevalent among chronic pain sufferers, with 30% having 10 or more repeat prescriptions, compared to only 2.1% in the general population. In BNSSG, The three PCNs with the highest percentage of their chronic pain cohort on 10 or more repeat prescriptions are Bristol Inner City PCN, Bridge View PCN, and Tyntesfield PCN.

National Context

A national review of prescribed medicines for pain¹⁸ found that:

- People are taking more prescribed medications and for longer compared to 10 years ago. This can lead to higher risk of addiction and withdrawal and comes at a significant cost to the NHS and to patients as their tolerance levels may build and not be as effective at managing their conditions.
- Patients described not being offered any non-medicinal treatment options, their treatment not being reviewed sufficiently and a lack of access to effective management and NHS support services
- Long-term prescribing of opioids for chronic, non-cancer pain is not effective for most patients.

Service use

The cost of care is five times greater for people living with chronic pain compared to those without (per head of population). This is purely the financial cost there is also a significant social and economic cost for people living with chronic pain²⁰.

In BNSSG, over a three-year period, the population with chronic pain had 4.5 million appointments or contacts which cost a total of £441 million, primary care contacts are the main point of contact for this patient group, representing 63% of their activity within the health system. However, despite the majority of interactions occurring in primary care, it only accounts for 13% of this groups' total costs. The highest costs are attributed to care in hospital, primarily due to the high cost per admission.

Figure 12 Activity and Cost by Point of Delivery (2020-23)

OVER A THREE YEAR PERIOD...

4.5m

APPOINTMENTS

£441

MILLION

63%

IN PRIMARY CARE

¹⁸ Public Health England (2020) Prescribed medicines review: summary - GOV.UK (www.gov.uk)

²⁰ Wynick, D (2022) 'Analysis of the demographics of those with Chronic Pain across BNSSG'

What are the opportunities for prevention?

CHRONIC PAIN MUST BE SEEN AS A PUBLIC HEALTH PROBLEM REQUIRING PUBLIC HEALTH SOLUTIONS

Chronic pain in England: Unseen, unequal and unfair - Versus Arthritis, 2021

Chronic pain should be viewed as a problem that can be tackled with a population health approach. Focusing on prevention and addressing health inequalities; chronic pain is not just a health issue – it's a societal one.

There are significant impacts across the life course and there are opportunities to prevent or reduce the impact of chronic pain at all stages.

Interventions such as referral to pain specialists, psychological therapies, or self-management advice are crucial in mitigating the societal burden of chronic pain and addressing its associated inequalities⁷.

How can we do this?

Primary prevention for chronic pain is focused on preventing its occurrence.

Opportunities for primary prevention include:

- NHS Health Checks and NHS Stop smoking services.
- A healthy weight is important for reducing conditions such as back and neck pain²¹.
- Exercise helps to strengthen muscles and improve flexibility^{38,22}.
- Workplace health programmes such as manual handling training can help reduce the likelihood of developing lower back pain²³. Toolkits have been developed for employers to support healthier workplaces²⁴.

Secondary prevention for chronic pain involves early detection and interventions to reduce its impact²⁵.

Key recommendations by NICE are summarised below:

- Preventing the progression of mild or intermittent chronic pain at the earliest opportunity.
- **Exercise** reduces pain and improves quality of life, compared to usual care in people with chronic primary pain. Many people with chronic primary pain find it difficult to be active. Inactivity is a risk factor for poor health outcomes including obesity related

21 OHID (2022) Guidance Musculoskeletal health: applying All Our Health Musculoskeletal health: applying All Our Health - GOV.UK (www.gov.uk)

22 OHID (2022) Musculoskeletal health: applying All Our Health

23 OHID (2022) Workplace health: applying All Our Health

24 OHID British Society for Rheumatology & Society of Occupational Medicine (2022) The Musculoskeletal (MSK) Health Toolkit for employers and further education institutions

25 NICE (2021) [NG193] Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain

illness. There are many benefits to engaging in any physical activity for people with chronic primary pain, particularly if they are inactive²⁶.

- **Psychological therapies** including Acceptance and Commitment Therapy (ACT) and Cognitive Behavioural Therapy (CBT) can reduce pain severity and the impact on daily living. Mental health conditions cluster in the chronic pain population including depression, anxiety and post-traumatic stress disorder²⁷.
- **Acupuncture** is recommended as a single course for people with chronic primary pain. Further research is recommended to understand the effectiveness of repeat courses²⁸.
- **Drug treatment** should be tailored to individual needs. NICE shows that there is evidence for a benefit of certain types of antidepressants for chronic primary pain, which can improve outcomes quality of life, pain, physical function and psychological distress²⁹. Use of opioids for chronic pain management is not recommended, due to lack of effectiveness and increased risk of harm.

These measures aim to reduce suffering and improve the quality of life for people living with chronic pain.

Tertiary prevention for chronic pain aims to reduce complications and improve outcomes for those already living with chronic pain.

Key recommendations by NICE are summarised below:

- **Local pain management clinics** offer early treatment with holistic approaches focused on reducing disability, work loss, and social isolation. Patient centred approaches including a full review of psychological, biological and social factors in assessment and care plans are considered to be best practice^{30,31}.
- **Pain management programmes** reduce the impact of pain on quality of life. NICE reports that the most frequent benefit was for improvements in overall quality of life acknowledging that there are a wide range of interventions and how pain management programmes can work³².
- **Social Prescribing and support groups:** can provide emotional support and coping strategies and support physical and mental well-being for chronic pain sufferers. Group activities in non-medical settings can help people manage their conditions. Further research is recommended into social prescribing approaches for chronic pain³³.

26 NICE (2021) Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain [E] Evidence review for exercise for chronic primary pain NG193 Evidence review E (nice.org.uk)

27 NG193 (2021) Evidence review F - Evidence review for psychological therapy for chronic primary pain

28 NG193 Evidence review G - Evidence review for acupuncture for chronic primary pain (nice.org.uk)

29 NG193 Evidence review J - Evidence review for pharmacological management for chronic primary pain (nice.org.uk)

30 NG193 Evidence review B - Evidence review for communication between healthcare professionals and people with chronic pain (chronic primary pain and chronic secondary pain)

31 NICE (2021) [CG138] Patient experience in adult NHS services: improving the experience of care for people using adult NHS services | Guidance | NICE

32 NG193 Evidence review C - Evidence review for pain management programmes for chronic pain (chronic primary pain and chronic secondary pain)

33 NG193 Evidence review D - Evidence review for social interventions for chronic pain (chronic primary pain and chronic secondary pain)

Return on Investment (ROI) for chronic pain

Return on Investment (ROI) is a way of quantifying the benefits, either financial or societal, of investing in health-related activities compared to the costs of delivering them.

Models developed by Public Health England's Health Economics and Modelling Team have developed tools to quantify the costs, savings and benefits for a range of specific topics, including musculoskeletal conditions. This helps to develop an understanding of the impact of implementing a particular intervention. A full list of cost effective interventions for preventing and treating MSK conditions is available in *Appendix 1: Return on Investment*.

Figure 13 below illustrates a couple of examples of the different benefits realised from cost-effective interventions for treating musculoskeletal conditions³⁴.

- Every £1 invested in an early telephone assessment and advice intervention for all MSK conditions produces a financial benefit of £2.08 and a societal benefit of £47.32.
- Every £1 invested in a programme called stratified risk assessment and care (STarT) Back for Lower Back Pain produces a financial benefit of £10.58 and a societal benefit of £226.23.

Figure 13: Return on Investment for interventions used to treat musculoskeletal conditions



Produced by Population Health Improvement Specialist Team

³⁴ Musculoskeletal conditions: return on investment tool - GOV.UK (www.gov.uk)

What can the system do?

There are a number of key opportunities for the system which are summarised below, based on published evidence and guidance. Some can be implemented in the short term; some would require more planning and would take longer to achieve. The list is not exhaustive and is an example of opportunities for the system to improve the lives of people living with chronic pain in BNSSG.

Joined up care and good communication

- **Good communication** between services is crucial in relation to signposting, triaging, and increasing or decreasing the levels of intervention required from healthcare³⁵.
- Ensuring that all parts of the health and care system **documenting evidence of chronic pain** in health and social care records including primary care, NHS Trusts and Social Services⁵.

Health Inequalities

- Awareness that people in the **most deprived areas, women and some minority ethnic groups** are **disproportionately affected** by chronic pain⁵.
- **People living in deprivation have many competing issues and challenges** in their lives such as the impact of housing, poverty and employment³⁶. There is a need for the health and care system to consider these when developing and delivering services.
- A focus on **reducing inequalities in outcomes and experience** among people with chronic pain living in the 20% most deprived areas. To understand how to design services to support them better³⁶.
- **Health literacy is lower in people with MSK pain and linked to poorer outcomes** such as delays in seeking support. Ensuring information is available in a range of formats can help with this³⁶. A [health literacy toolkit](#) is available from NHS England³⁷.
- **Use of digital technology** can be used to support people to manage their health condition³⁸. Low income households are more likely to be digitally excluded. Printed materials can be provided alongside digital options. Targeted programmes to develop confidence in using technology is also recommended³⁶.

Wider Determinants: Employment and Poverty

- The relationship between work and health is bi-directional. Health affects our work and work affects our health³⁹. **Supporting people to stay in employment** can help which could include support from employers and programmes to help people to remain in work^{5, 40,40,41}.

³⁵ Four_Nation_Strategy_for_Pain_Management_2022.pdf (britishpainsociety.org)

³⁶ Act Now: Musculoskeletal Health Inequalities and Deprivation (arma.uk.net)

³⁷ Health Information - (library.nhs.uk)

³⁸ Major conditions strategy: case for change and our strategic framework - GOV.UK (www.gov.uk)

³⁹ Employment - South West Population Health Tools - FutureNHS Collaboration Platform

⁴⁰ Chronic_Pain_Patient_Voice_-_NHS_Long_Term_Plan_CPCC_2019_Pain_Platform_Report.pdf (britishpainsociety.org)

- The Major Conditions Strategy recommends the adding **employment advisors into MSK treatment pathways** to support people to stay in work³⁸.
- The Chief Medical Officer's report⁴¹ suggested **targeting poverty through ensuring people are receiving all the benefits they may be entitled to**, for example pension credits can give a wider range access to support for people to help them manage their conditions.

Prevention

- **Earlier intervention** helps to stop progression of chronic pain at the earliest opportunity³⁸.
- The system should **maximise all opportunities for prevention** to address physical activity, mental health and encourage people to maintain a healthy weight, stop smoking and reducing their alcohol intake^{5,38}.
- **Using community assets** such as community centres or village halls to develop community run programmes for strength and flexibility programmes⁴¹.

New models of care and changes to practice

- There will be a significant growth in people living with chronic pain by 2040. This will require **investment for primary care and community based services** where most chronic pain is managed⁴².
- **Holistic assessments** for mental and physical wellbeing exploring day-to-day activities, work and underlying causes of pain^{40,43} leading to **personalised care approaches and shared decision making** and engagement with social prescribing teams^{38,47,36}.
- To be **aware of non-drug treatment options** for the management of chronic pain locally⁴⁴.
- Consider **service re-design to include management of long term conditions alongside chronic pain** using multi-disciplinary teams and new models of care such as MSK Hubs^{36,38}.
- The Major Conditions Strategy highlighted for **first contact practitioners, health coaching & social prescribing to be sited in general practices**³⁸.
- **Exploring the role of VCSE Sector for peer-support opportunities**. The most effective supported self-management approaches involve an element of ongoing peer support³⁶. A [supported self management toolkit](#) for the management of MSK conditions is available from the NHS.

41 Chief Medical Officer's Annual Report 2023 – Health in an Ageing Society (publishing.service.gov.uk)

42 Health in 2040: projected patterns of illness in England - The Health Foundation

43 Patient centred goals Cornwall: Chronic Pain Health Needs Assessment Questionnaire

44 QIPP - Options for local implementation | Goals and outcome measures | Chronic pain | CKS | NICE

Workforce: Training and Education

- **Investment in training** is required for the workforce to ensure that there are sustainable ways of working across all sectors for the future, ensuring that people have the **right knowledge, skills and understanding of options available to support people**³⁵.
- There are opportunities to **develop the existing NHS workforce** through development of experienced health care professionals such as through Advanced Practice roles. These roles could work in the community, local authorities or secondary care with clinical supervision or support as required. For chronic pain, there are examples in multi-professional community-based pain services outside of BNSSG⁴⁵.

Improving data

- There should be efforts to **routinely collect data** on the prevalence and impact of chronic pain and for this to be published at national, regional and local level⁴⁷. This could be through the development of local metrics to monitor progress towards improving outcomes.
- Efforts to **improve access to data for service delivery**. Many services are often not collecting data on social characteristics which could help to identify links with deprivation and understand who is accessing services³⁶.
- **Use of Population Health Management approaches** to target key groups of people chronic pain who have the greatest need to get them the right types of support ^{38, 36} A successful pilot has already taken place in Network4PCN in BNSSG using this type of approach⁴⁶.

Research

- **Opportunities for further research** recommended in the Chief Medical Officers report included understanding the role of multi-morbidity, the effects of polypharmacy in older age and understanding the clusters of disease that are commonly found in older people to support planning of future services⁴¹.

⁴⁵ Regional Faculty for Advancing Practice – South West - Advanced Practice (hee.nhs.uk)

⁴⁶ Healthier Together (2023) An early intervention for chronic, persistent pain in primary care A pilot project in BNSSG, working with specialised pain management services and Network4PCN

Further Resources

National

- [Musculoskeletal health: applying All Our Health - GOV.UK \(www.gov.uk\)](https://www.gov.uk)
- [Chief Medical Officer's annual report 2023: health in an ageing society - GOV.UK \(www.gov.uk\)](https://www.gov.uk)
- [Health in 2040: projected patterns of illness in England - The Health Foundation](https://www.healthfoundation.org.uk)
- [National Strategy for Pain Management – Faculty of Pain Medicine \(2022\)⁴⁷](https://www.britishtime.com)
- [NHS Long Term Plan – Long Term Conditions: Shorter waits for planned care⁴⁸](https://www.nhs.uk)
- [Reduce health inequalities in musculoskeletal health | ARMA](https://www.arma.org.uk)
- [MSK Health inequalities resource page – Arthritis and Musculoskeletal Alliance \(arma.uk.net\)](https://www.arma.org.uk)
- [Rehabilitation, recovery and reducing health inequity: easing the pain | The Chartered Society of Physiotherapy \(csp.org.uk\)](https://www.csp.org.uk)
- [Chronic pain: an update on burden, best practices, and new advances - The Lancet](https://www.thelancet.com)
- [Faculty of Pain Medicine: Practical Pain Management in Specialist Care: How to help people with chronic pain when population based national guidance fails to help](https://www.britishtime.com)
- [Physiotherapy works: Chronic pain | The Chartered Society of Physiotherapy \(csp.org.uk\)](https://www.csp.org.uk)
- [Home - Live Well with Pain](https://www.home-livewellwithpain.org.uk)

Local Resources

- [BNSSG Strategy: Commitment 5 - Develop a system-wide approach for painful conditions⁴⁹](https://www.bnssg.org.uk)
- [Remedy: GP Referral Support Tool: BNSSG ICB - Persistent \(Chronic\) pain](https://www.bnssg.org.uk)
- [Chronic Pain Health Integration Team \(HIT\) - Bristol Health Partners](https://www.bristolhealthpartners.org.uk)
- [NHS England — South West » Opioid prescribing for chronic pain](https://www.nhs.uk)

NICE Guidelines

- [Chronic and neuropathic pain | Topic | NICE](https://www.nice.org.uk)
- [Overview | Chronic pain \(primary and secondary\) in over 16s: assessment of all chronic pain and management of chronic primary pain | Guidance | NICE](https://www.nice.org.uk)
- [NG193 Visual summary \(nice.org.uk\)](https://www.nice.org.uk)
- [Impact on NHS workforce and resources | Chronic pain \(primary and secondary\) in over 16s: assessment of all chronic pain and management of chronic primary pain | Guidance | NICE](https://www.nice.org.uk)

⁴⁷ Four_Nation_Strategy_for_Pain_Management_2022.pdf (britishpainsociety.org)

⁴⁸ NHS Long Term Plan » Short waits for planned care

⁴⁹ Bristol, North Somerset and South Gloucestershire Integrated Care System Strategy (bnssghealthiertogether.org.uk)

Appendix 1: Return on Investment

UKHSA: Cost Effective Interventions for preventing and treating MSK⁵⁰

Intervention	Summary of evidence
Otago strength and balance exercise	The Otago programme is a home based exercise programme in which participants are encouraged to perform exercises three times a week at home and also walk indoors and outdoors at a moderate pace. Otago is recommended for at least one year and participants receive support from trained staff through home visits and follow up telephone calls.
Falls Management exercise (FaME)	The Falls Management Exercise (FaME) programme is a community based group programme delivered by a postural stability instructor (PSI). The programme consists of weekly classes lasting between 45 and 75 minutes with additional home exercises.
Tai Chi or Tai Ji Quan	Tai chi exercises combine deep breathing and relaxation with flowing movement. It can be performed in a community based group on a weekly basis, with additional exercises at home. Tai Chi should be considered as a type of physical activity rather than a clinical falls prevention intervention.
Home Assessment and Modification	Home assessment and modification (HAM) is a service in which relevant experts risk assess a person's usual residence to identify environmental hazards and carries out actions to reduce these. Typical environmental hazards are loose mats, poor lighting and no handrails.
Cognitive behavioural therapy (CBT) including exercise - lower back pain	Intervention for the treatment of LBP which comprised exercise and education using CBT. The intervention was delivered as group sessions by physiotherapists specifically trained in CBT. Eight two-hour sessions delivered over a five week period in groups of four to 10 led by two physiotherapists. An information booklet was also provided.
STarT Back (stratified risk assessment and care) - lower back pain	Uses a validated, simple-to-use prognostic screening method (the Keele STarT Back Screening Tool) to allocate patients into one of three risk-defined groups—low, medium, and high. Three treatment pathways were matched to these risk groups.
PhysioDirect - Early telephone assessment and advice - all MSK conditions	PhysioDirect involved telephone assessment and advice followed by face-to-face care if required (as opposed to being placed on a waiting list for routine face-to-face treatment). The interview was conducted by a specially trained senior physiotherapist and assisted by computerised templates. Patients were sent leaflets and advice on self-management, with invitation to call again or make a face to face appointment.
Self-referral to physiotherapy - all MSK conditions	Patients could either undertake self-referral to a physiotherapist, with or without the suggestion of their GP.

⁵⁰ Musculoskeletal conditions: return on investment tool - GOV.UK (www.gov.uk)

	<i>Return on Investment</i>	
	<i>Financial</i>	<i>Societal</i>
Cognitive behavioural therapy (CBT) including exercise - lower back pain	£0.11:£1	£7.52: £1
STarT Back (stratified risk assessment and care) - lower back pain	£10.58 : £1	Societal ROI (excl. productivity) £90.91 : £1 Societal ROI (incl. productivity) £226.23 : £1
PhysioDirect - Early telephone assessment and advice - all MSK conditions	Financial ROI £2.08 : £1	Societal ROI £47.32 : £1
Self-referral to physiotherapy - all MSK conditions	Financial ROI £98.54 : £1	
Vocational advice from physiotherapists in primary care - MSK pain causing employment issues		Societal ROI (incl. productivity) £11.14 : £1
ESCAPE-Pain for knee pain	Financial ROI £5.20 : £1	