NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health and social care directorate

Quality standards and indicators

Briefing paper

Quality standard topic: Osteoarthritis

Output: Prioritised quality improvement areas for development.

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Contents

1 Introduction

This briefing paper presents a structured overview of potential quality improvement areas for osteoarthritis. It provides the Committee with a basis for discussing and prioritising quality improvement areas for development into draft quality statements and measures for public consultation.

1.1 Structure

This briefing paper includes a brief description of the topic, a summary of each of the suggested quality improvement areas and supporting information.

If relevant, recommendations selected from the key development source below are included to help the Committee in considering potential statements and measures.

1.2 Development source

The key development source referenced in this briefing paper is:

Osteoarthritis: care and management in adults. NICE clinical guideline 177 (2014)

This is an updated guideline that replaces NICE clinical guideline 59 (2008). It was not possible to update the recommendations for the pharmacological management of osteoarthritis but the Guideline Development Group highlighted that the findings of the initial evidence review identified reduced effectiveness of paracetamol in the management of osteoarthritis. The recommendations will be updated once a full review of evidence is complete.

As the priorities for improvement for the quality standard identified by the engagement exercise do not focus specifically on the use of paracetamol, it is unlikely this will impact on the development of the quality standard.

2 Overview

2.1 Focus of quality standard

This quality standard will cover the care and management of osteoarthritis in adults (18 years and over). It will not include the replacement of hip, knee or shoulder joints for osteoarthritis because this will be included in a future clinical guideline and quality standard.

2.2 Definition

Osteoarthritis refers to a clinical syndrome of joint pain accompanied by varying degrees of functional limitation and reduced quality of life. The most commonly

affected peripheral joints are the knees, hips and small hand joints. It is common to have osteoarthritis in more than one joint. There is often a poor link between changes visible on an X-ray and symptoms of osteoarthritis: minimal changes can be associated with a lot of pain, or modest structural changes to joints can occur with minimal accompanying symptoms. Contrary to popular belief, osteoarthritis is not caused by ageing and does not necessarily deteriorate.

Osteoarthritis is characterised pathologically by localised loss of cartilage, remodelling of adjacent bone and associated inflammation. A variety of traumas may trigger the need for a joint to repair itself. Osteoarthritis includes a slow but efficient repair process that often compensates for the initial trauma, resulting in a structurally altered but symptom-free joint. In some people, because of either overwhelming trauma or compromised repair, the process cannot compensate, resulting in eventual presentation with symptomatic osteoarthritis; this might be thought of as 'joint failure'. This in part explains the extreme variability in clinical presentation and outcome that can be observed between people, and also at different joints in the same person.

2.3 Incidence and prevalence

Osteoarthritis is the most common form of arthritis, and one of the leading causes of pain and disability worldwide. Pain, reduced function and effects on a person's ability to carry out their day-to-day activities can be important consequences of osteoarthritis. Pain in itself is also a complex biopsychosocial issue, related in part to a person's expectations and self-efficacy (that is, their belief in their ability to complete tasks and reach goals), and is associated with changes in mood, sleep and coping abilities.

The exact incidence and prevalence of osteoarthritis are difficult to determine because the clinical syndrome of osteoarthritis (joint pain and stiffness) does not always correspond with the structural changes of osteoarthritis (usually defined as abnormal changes in the appearance of joints on radiographs).

The number of people with osteoarthritis in England has been estimated at around 7.3 million people with a higher prevalence in women than in men based on information in Osteoarthritis in general practice: data and perspectives (Arthritis Research UK 2013). The prevalence of osteoarthritis increases with age. The number of people in England with osteoarthritis is likely to be increasing because of an ageing population and rising obesity levels.

Osteoarthritis has considerable impact on health services:

- Two million adults per year visit their GP due to osteoarthritis.

- Of those aged over 45 years, 5% have an osteoarthritis recorded primary care consultation in the course of a year. This rises to 10% in those aged 75 years and over.

- The National Joint Registry 2013 annual report shows that the large majority of hip (92%) and knee replacements (98%) carried out in 2012 were due to osteoarthritis, accounting for over 140,000 procedures. Based on data from the National Joint Registry the number of hip and knee replacements due to osteoarthritis increased by 13% from 2007 to 2012.

Osteoarthritis has a significant negative impact on the UK economy, with its total cost estimated as equivalent of 1% of GNP per year and an estimated 36 million working days lost. This is due to the large number of people with the condition, the impact on quality of life, ability to work, and the need for health, social care and welfare benefits.

2.4 Management

Current treatments for osteoarthritis are concerned with managing symptoms such as pain. There is no medication that has been proven to prevent the disease or modify its course. Recommended core treatments are activity and exercise, weight loss if the person is overweight or obese and patient information to enhance understanding of the condition. Pharmacological management is focussed on pain management.

Most people with osteoarthritis present first to their GP. However, the care pathway for osteoarthritis is not well defined and differs depending on the anatomical site. Because osteoarthritis is a chronic condition, people may re-present to their GP over many years. Approximately 95% of people with osteoarthritis are managed in primary care.

A small percentage of people with osteoarthritis may be referred from their GP to allied healthcare professionals (predominantly physiotherapy, but also occupational therapy and podiatry services), or to rheumatologists and orthopaedic surgeons. People with knee or hip osteoarthritis make up most surgical referrals. In parts of the UK, intermediary or triage services (often led by physiotherapists) will see such surgical referrals, in line with the NHS Musculoskeletal Framework (2006).

See appendix 1 for the associated care pathway from NICE clinical guideline 177.

2.5 National Outcome Frameworks

Tables 1–3 show the outcomes, overarching indicators and improvement areas from the frameworks that the quality standard could contribute to achieving.

Table 1 The Adult Social Care Outcomes Framework 2014–15

Domain	Overarching and outcome measures
1 Enhancing quality of life for people with care and support needs	***Overarching measure*** 1A Social care-related quality of life* ***Outcome measures*** **People are able to find employment when they want, maintain a family and social life and contribute to community life, and avoid loneliness or isolation** 1I Proportion of people who use services and their carers, who reported that they had as much social contact as they would like (PHOF 1.18*)
2 Delaying and reducing the need for care and support	***Overarching measure*** 2A Permanent admissions to residential and nursing care homes, per 100,000 population ***Outcome measures*** **Everybody has the opportunity to have the best health and wellbeing throughout their life, and can access support and information to help them manage their care needs** **Earlier diagnosis, intervention and reablement means that people and their carers are less dependent on intensive services**
Aligning across the health and care system * Indicator shared with Public Health Outcomes Framework (PHOF)	

Table 2 NHS Outcomes Framework 2014–15

Domain	Overarching indicators and improvement areas
2 Enhancing quality of life for people with long-term conditions	***Overarching indicator*** 2 Health-related quality of life for people with long-term conditions (ASCOF 1A*) ***Improvement areas*** **Ensuring people feel supported to manage their condition** 2.1 Proportion of people feeling supported to manage their condition **Improving functional ability in people with long-term conditions** 2.2 Employment of people with long-term conditions (PHOF 1.8**)
4 Ensuring that people have a positive experience of care	***Overarching indicator*** 4a Patient experience of primary care i GP services
Alignment across the health and social care system * Indicator shared with Adult Social Care Outcomes Framework (ASCOF) ** Indicator shared with Public Health Outcomes Framework (PHOF)	

Table 3 Public health outcomes framework for England, 2013–2016

Domain	Objectives and indicators
Vision: To improve and protect the nation's health and wellbeing and improve the health of the poorest fastest	***Outcome measure*** Outcome 1) Increased healthy life expectancy, i.e. taking account of the health quality as well as the length of life
1 Improving the wider determinants of health	***Objective*** Improvements against wider factors which affect health and wellbeing and health inequalities ***Indicators*** 1.8 Employment for those with long-term health conditions including adults with a learning disability or who are in contact with secondary mental health services (NHSOF 2.2*) 1.9 Sickness absence rate 1.18 Social isolation (ASCOF 1I**)
2 Health improvement	***Objective*** People are helped to live healthy lifestyles, make healthy choices and reduce health inequalities ***Indicators*** 2.12 Excess weight in adults 2.13 Proportion of physically active and inactive adults
4 Healthcare public health and preventing premature mortality	***Objective*** Reduced numbers of people living with preventable ill health and people dying prematurely, while reducing the gap between communities ***Indicators*** 4.13 Health-related quality of life for older people
Alignment across the health and social care system * Indicator shared with NHS Outcomes Framework (NHSOF) ** Indicator shared with Adult Social Care Outcomes Framework (ASCOF)	

3 Summary of suggestions

3.1 Responses

In total 17 stakeholders responded to the 2-week engagement exercise 24/07/14 – 07/10/14.

Stakeholders were asked to suggest up to 5 areas for quality improvement. Specialist committee members were also invited to provide suggestions. The responses have been merged and summarised in table 4 for further consideration by the Committee.

NHS England's patient safety division did not submit any data for this topic.

Full details on the suggestions provided are given in appendix 4 for information.

Table 4 Summary of suggested quality improvement areas

Suggested area for improvement	Stakeholders
Diagnosis	
• Awareness of alternative diagnoses	• BIA
• Use of x-ray and MRI	• Biomet, SCM
Holistic approach to assessment and management	
• Holistic assessment	• AC, Biomet, GL, RCN
• Patient involvement	• SCM
Education and self-management	
• Patient information	• PCRS, RCN, SCMs
• Support for self-management	• RCN, SCMs
Non-pharmacological management	
• Exercise	• AC, PCRS, RCN, SCMs
• Healthy weight management	• AC, DOMUK, RCN, SCMs, PCRS
• Biomechanical devices	• BAPO, RCN
• Invasive treatments	• RJAHOHFT, SCM
Pharmacological management	
• Pain management	• AC, GL, NPL, RCN, SCMs
• Referral to pain specialist	• NPL
• Use of topical NSAIDs	• SCM
Referral for consideration of joint surgery	
• Referral following core treatments	• SCM
• Access criteria	• SCMs, BOA
Follow-up and review	• PCRS, GL, NPL, RCN, SCMs
• Regular follow-up and review	• BOA, GL, RCN, Biomet
• Data collection and audit	
Additional areas	
• Prevention of osteoarthritis in the population	• DOMUK
• Training of primary care staff in conservative management	• PCRS, NPL
• Intra-articular stem cell injection	• SCM
• Vitamin D	• HQT
• Fatty acids/dietary advice	• HQT
• Stronger evidence base for orthotic management	• BAPO

Suggested area for improvement	Stakeholders
AC – Arthritis Care Biomet British Association of Prosthetists and Orthotists – BAPO BIA – British Infection Association BOA– British Orthopaedic Association DOMUK – Dieticians in Obesity Management UK GL – Grünenthal Ltd HQT – HQT Diagnostics NPL – Napp Pharmaceuticals Limited PCRS – Primary Care Rheumatology Society RJAHOHFT – The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation Trust RCN – Royal College of Nursing SCM – Specialist Committee Member	

4 Suggested improvement areas

4.1 Diagnosis

4.1.1 Summary of suggestions

Awareness of alternative diagnoses

The importance of being aware of septic arthritis and osteomyelitis when diagnosing a patient with symptoms and signs of osteoarthritis was highlighted due to the potentially serious consequences of missing such infections.

Use of X-ray and MRI

One stakeholder suggested that all patients presenting with persistent knee pain should have a baseline validated imaging study using an X-ray and MRI to identify disease progression.

Contrary to this, another suggestion was that osteoarthritis should be diagnosed clinically without investigations if a person has typical symptoms.

4.1.2 Selected recommendations from development source

Table 5 below highlights recommendations that have been provisionally selected from the development source that may support potential statement development. These are presented in full after table 5 to help inform the Committee's discussion.

Table 5 Specific areas for quality improvement

Suggested quality improvement area	Suggested source guidance recommendations
Awareness of alternative diagnoses	**Diagnosis** NICE CG177 Recommendation 1.1.2
Use of X-ray and MRI	**Diagnosis** NICE CG177 Recommendation 1.1.1 (KPI)

Diagnosis

NICE CG177 – Recommendation 1.1.2

Be aware that atypical features, such as a history of trauma, prolonged morning joint-related stiffness, rapid worsening of symptoms or the presence of a hot swollen joint, may indicate alternative or additional diagnoses. Important differential diagnoses include gout, other inflammatory arthritides (for example, rheumatoid arthritis), septic arthritis and malignancy (bone pain).

Use of X-ray and MRI

NICE CG177 – Recommendation 1.1.1 (KPI)

Diagnose osteoarthritis clinically without investigations if a person:

- is 45 or over and
- has activity-related joint pain and
- has either no morning joint-related stiffness or morning stiffness that lasts no longer than 30 minutes.

4.1.3 Current UK practice

Diagnosis

Experts have provided evidence of the overuse of MRI scanning in some areas which led to decommissioning of GP access to MRI scanning for musculoskeletal conditions across a large area of North West London.

Use of X-ray and MRI

No current practice data found.

4.2 Holistic approach to assessment and management

4.2.1 Summary of suggestions

Holistic assessment

Stakeholders highlighted the need for a holistic assessment of the patient's wider needs including co-morbidities and emotional wellbeing. Use of a standard clinical assessment tool for the measurement of pain was seen as particularly important to enable the effectiveness of interventions to be assessed.

Patient involvement

Stakeholders felt it is very important to involve patients in decision making as they are more likely to comply with the management options agreed, particularly those which rely on patient action such as weight loss and exercise. It will also help to ensure patients are not referred for surgery too early or too late.

4.2.2 Selected recommendations from development source

Table 6 below highlights recommendations that have been provisionally selected from the development source that may support potential statement development. These are presented in full after table 6 to help inform the Committee's discussion.

Table 6 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Holistic assessment	**Holistic approach to osteoarthritis assessment and management** NICE CG177 Recommendation 1.2.1 and 1.2.3
Patient involvement	**Holistic approach to osteoarthritis assessment and management** NICE CG177 Recommendations 1.2.2 and 1.2.4

Holistic approach to osteoarthritis assessment and management

NICE CG177 – Recommendation 1.2.1

Assess the effect of osteoarthritis on the person's function, quality of life, occupation, mood, relationships and leisure activities. Use figure 1 (see Appendix 2) as an aid to prompt questions that should be asked as part of the holistic assessment of a person with osteoarthritis.

This figure is intended as an 'aide memoir' to provide a breakdown of key topics that are of common concern when assessing people with osteoarthritis. For most topics

there are a few suggested specific points that are worth assessing. Not every topic will be of concern for everyone with osteoarthritis, and there are other topics that may warrant consideration for particular people.

NICE CG177 – Recommendation 1.2.2

Agree a plan with the person (and their family members or carers as appropriate) for managing their osteoarthritis. Apply the principles in Patient experience in adult NHS services (NICE clinical guidance 138) in relation to shared decision-making.

NICE CG177 – Recommendation 1.2.3

Take into account comorbidities that compound the effect of osteoarthritis when formulating the management plan.

NICE CG177 – Recommendation 1.2.4

Discuss the risks and benefits of treatment options with the person, taking into account comorbidities. Ensure that the information provided can be understood.

4.2.3 Current UK practice

Holistic assessment

A survey of GPs carried out by Kingsbury and Conaghan[1] (2012) to explore GPs management of osteoarthritis, found that nearly all GPs reported they assess pain and function for patients presenting with osteoarthritis, although the majority did not use any tools to evaluate pain. The majority also reported that they assess quality of life and effect on independent living but less than half assessed depression and only 22% assess the effect on relationships with family and friends. The study highlights the strong interrelationship between mental health, pain and disability and suggests that more emphasis may be needed on the assessment of anxiety and depression.

Thomas et al[2] (2013) undertook a qualitative study of patients with foot osteoarthritis and found that some patients believed their GP had failed to undertake a skilled assessment or did not provide information beyond a label of arthritis and the promotion of analgesics.

Patient involvement

A survey of people with osteoarthritis carried out in 2011 by Arthritis Care[3] found that only 18% had agreed a care plan with their health professional.

[1] Current osteoarthritis treatment, prescribing influences and barriers to implementation in primary care. Primary Health Care Research & Development 2012; 13: 373-381
[2] "Somebody to Say 'Come On We Can Sort This'": A Qualitative Study of Primary Care Consultation Among Older Adults With Symptomatic Foot Osteoarthritis. Arthritis Care & Research Vol. 65, No. 12, December 2013, pp 2051–2055
[3] Oanation 2012: The most comprehensive UK report of people with osteoarthritis. Arthritis Care

4.3 Education and self-management

4.3.1 Summary of suggestions

Patient information

The importance of providing patients with good information about osteoarthritis was acknowledged but stakeholders felt that in practice information is not always provided and even when it is the information is sometimes insufficient.

Support for self-management

Stakeholders acknowledged that the core treatments of physical activity and weight loss for osteoarthritis are complex interventions that require behaviour change. It was suggested that the support provided to help patients to make these changes is extremely variable. It was felt that group-based and one to one forms of support should be available to meet individual needs and preferences.

4.3.2 Selected recommendations from development source

Table 7 below highlights recommendations that have been provisionally selected from the development source(s) that may support potential statement development. These are presented in full after table 7 to help inform the Committee's discussion.

Table 7 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Patient information	**Holistic approach to osteoarthritis assessment and management** NICE CG177 Recommendations 1.2.4 and 1.2.5 (KPI) **Education and self-management** NICE CG177 Recommendation 1.3.1 (KPI)
Support for self-management	**Education and self-management** NICE CG177 Recommendations 1.3.2 (KPI) and 1.3.3

Holistic approach to osteoarthritis assessment and management

NICE CG177 – Recommendation 1.2.4

Discuss the risks and benefits of treatment options with the person, taking into account comorbidities. Ensure that the information provided can be understood.

NICE CG177 – Recommendation 1.2.5 (KPI)

Offer advice on the following core treatments to all people with clinical osteoarthritis.

- Access to appropriate information (see recommendation 1.3.1).
- Activity and exercise (see recommendation 1.4.1).
- Interventions to achieve weight loss if the person is overweight or obese (see recommendation 1.4.3 and Obesity [NICE clinical guideline 43]).

Education and self-management

NICE CG177 – Recommendation 1.3.1 (KPI)

Offer accurate verbal and written information to all people with osteoarthritis to enhance understanding of the condition and its management, and to counter misconceptions, such as that it inevitably progresses and cannot be treated. Ensure that information sharing is an ongoing, integral part of the management plan rather than a single event at time of presentation.

NICE CG177 – Recommendation 1.3.2 (KPI)

Agree individualised self-management strategies with the person with osteoarthritis. Ensure that positive behavioural changes, such as exercise, weight loss, use of suitable footwear and pacing, are appropriately targeted.

NICE CG177 – Recommendation 1.3.3

Ensure that self-management programmes for people with osteoarthritis, either individually or in groups, emphasise the recommended core treatments, especially exercise.

4.3.3 Current UK practice

Patient information

A systematic review of literature on patient experiences in primary care and GP attitudes to and beliefs about osteoarthritis by Paskins et al[4] (2014) highlighted that evidence shows:

- Patients report being told by their GP that their joint pain/ arthritis is normal for their age, and is likely to deteriorate over time. Reports of being told ‘nothing can be done’ are common.

- Patients describe being encouraged to accept their symptoms and ‘live with it’.

[4] Comparison of patient experiences of the osteoarthritis consultation with GP attitudes and beliefs to OA: a narrative review. Paskins et al. BMC Family Practice 2014, 15:46

- General dissatisfaction among patients with the amount of explanation provided.

- The lack of precision in explanations has been interpreted as both lack of interest and lack of knowledge on behalf of the doctor.

- Education regarding prognosis has been identified as a particular area of unmet need in patients with osteoarthritis, underpinned by fear of lifelong pain, and of becoming disabled.

- GPs have reported reasons for not giving written information, including lack of availability of quality resources and limited time. GPs have also reported their own knowledge needs as a barrier to information provision.

A survey of GPs carried out by Kingsbury and Conaghan[5] (2012) found that GPs reported using educational materials with 48% of osteoarthritis patients. Only a third of GPs rated their current educational material as good or very good. The most common reasons for not providing adequate information or using educational material with patients were lack of time, availability of material and quality of material.

An unpublished baseline audit of quality indicators of care for the NIHR-funded MOSAICS study 'Management of osteoarthritis in consultations: the development of a complex intervention in primary care' found that in usual practice only 4% of patients consulting their GP will have a record of having received written information'.

A qualitative study of the opinions of patients and health professionals about existing osteoarthritis care carried out by Mann and Gooberman-Hill[6] (2011) identified that both groups are concerned about a lack of sufficient information being provided about osteoarthritis. Patients felt that they needed more information about osteoarthritis and its likely progression to empower them to manage their condition more effectively, including information about the right type of diet and exercise and practical aids. Health professionals felt that a lack of good quality specific information in the early stages of osteoarthritis may have a damaging effect on patients' expectations and self-management strategies, with potentially negative consequences for health resource use. Most health professionals involved in the study felt that they should devote more time to providing information.

[5] Current osteoarthritis treatment, prescribing influences and barriers to implementation in primary care. Primary Health Care Research & Development 2012; 13: 373-381

[6] Health Care Provision for Osteoarthritis: Concordance Between What Patients Would Like and What Health Professionals Think They Should Have. Arthritis Care & Research Vol. 63, No. 7, July 2011, pp 963–972.

Support for self-management

The qualitative study of patients and health professionals carried out by Mann and Gooberman-Hill[7] (2011) found that some health professionals felt that simply giving information was insufficient to achieve behaviour change. Most health professionals involved in the study felt that they should devote more time to support self-management.

Arthritis Care's OANation 2012[8] report concludes that the role of self-management is underestimated by both health professionals and those with the condition. Most people with osteoarthritis understand the steps they can take to relieve their symptoms, but only around half actually implement them. People with osteoarthritis who are supported to self-manage, have a care plan and are given the information they need are more likely to see their treatment as effective.

[7] Health Care Provision for Osteoarthritis: Concordance Between What Patients Would Like and What Health Professionals Think They Should Have. Arthritis Care & Research Vol. 63, No. 7, July 2011, pp 963–972.
[8] Oanation 2012: The most comprehensive UK report of people with osteoarthritis. Arthritis Care.

4.4 Non-pharmacological management

4.4.1 Summary of suggestions

Exercise

Stakeholders suggested that healthcare professionals need to do more to encourage people with osteoarthritis to exercise as this is an effective treatment. This could include referral to specific exercise programmes or activities.

The role of physiotherapists in supporting people with osteoarthritis to exercise was felt to be important and stakeholders highlighted that there is currently a wide variation in access to physiotherapy services across the UK.

Healthy weight management

Healthy weight management for people with reduced mobility and weight loss for people with osteoarthritis who are overweight was a priority for stakeholders and it was suggested that a more proactive approach is needed to encourage behaviour change. This could include referral to weight management programmes or specific diet advice. Stakeholders suggested weight loss combined with exercise is likely to be most effective.

Biomechanical devices

Stakeholders suggested that advice on appropriate biomechanical interventions including joint unloading, knee braces, footwear and insoles is important for people with osteoarthritis and one stakeholder indicated this may require referral to a specialist orthotist. Currently there is wide variation in referral pathways and specialists may not be used to their full potential.

Invasive treatments

There was concern among stakeholders that arthroscopic lavage and debridement procedures are still being used for patients who do not have true mechanical locking and that it would be better to use resources for more effective interventions. It was suggested that this varies considerably across the UK.

4.4.2 Selected recommendations from development source

Table 8 below highlights recommendations that have been provisionally selected from the development source(s) that may support potential statement development. These are presented in full after table 8 to help inform the Committee's discussion.

Table 8 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Exercise	**Holistic approach to osteoarthritis assessment and management** NICE CG177 Recommendation 1.2.5 (KPI**)** **Non-pharmacological management** NICE CG177 Recommendation 1.4.1 (KPI) and 1.4.2
Healthy weight management	**Holistic approach to osteoarthritis assessment and management** NICE CG177 Recommendation 1.2.5 (KPI**)** **Non-pharmacological management** NICE CG177 Recommendation 1.4.3
Biomechanical devices	**Non-pharmacological management** NICE CG177 Recommendations 1.4.7 and 1.4.8
Invasive treatments	**Non-pharmacological management** NICE CG177 Recommendation 1.4.10

Holistic approach to osteoarthritis assessment and management

NICE CG177 – Recommendation 1.2.5 (KPI)

Offer advice on the following core treatments to all people with clinical osteoarthritis.

- Access to appropriate information (see recommendation 1.3.1).
- Activity and exercise (see recommendation 1.4.1).
- Interventions to achieve weight loss if the person is overweight or obese (see recommendation 1.4.3 and Obesity [NICE clinical guideline 43]).

Non-pharmacological management

NICE CG177 – Recommendation 1.4.1 (KPI)

Advise people with osteoarthritis to exercise as a core treatment (see recommendation 1.2.5), irrespective of age, comorbidity, pain severity or disability. Exercise should include:

- local muscle strengthening and
- general aerobic fitness.

It has not been specified whether exercise should be provided by the NHS or whether the healthcare professional should provide advice and encouragement to the person to obtain and carry out the intervention themselves. Exercise has been found to be beneficial but the clinician needs to make a judgement in each case on how to effectively ensure participation. This will depend upon the person's individual needs, circumstances and self-motivation, and the availability of local facilities.

NICE CG177 – Recommendation 1.4.2

Manipulation and stretching should be considered as an adjunct to core treatments, particularly for osteoarthritis of the hip.

NICE CG177 – Recommendation 1.4.3

Offer interventions to achieve weight loss[9] as a core treatment (see recommendation 1.2.5) for people who are obese or overweight.

NICE CG177 – Recommendation 1.4.7

Offer advice on appropriate footwear (including shock-absorbing properties) as part of core treatments (see recommendation 1.2.5) for people with lower limb osteoarthritis.

NICE CG177 – Recommendation 1.4.8

People with osteoarthritis who have biomechanical joint pain or instability should be considered for assessment for bracing/joint supports/insoles as an adjunct to their core treatments.

NICE CG177 – Recommendation 1.4.10

Do not refer for arthroscopic lavage and debridement as part of treatment for osteoarthritis, unless the person has knee osteoarthritis with a clear history of mechanical locking (as opposed to morning joint stiffness, 'giving way' or X-ray evidence of loose bodies).

4.4.3 Current UK practice

Exercise

A survey of people with osteoarthritis carried out in 2011 by Arthritis Care[10] found that 44% do no exercise at all in a typical week, and only 10% exercise every day. Almost two-thirds (64%) were, however, aware that increasing/changing the amount

[9] See Obesity: guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children (NICE clinical guideline 43).
[10] Oanation 2012: The most comprehensive UK report of people with osteoarthritis. Arthritis Care.

of exercise they do could help to alleviate the symptoms or slow the progress of osteoarthritis.

A study of physical activity levels among adults with rheumatic diseases attending an inner city hospital[11] found that nearly two thirds of people met the recommended level of physical activity (i.e. 150 or more minutes of moderate intensity physical activity or 75 minutes or more of vigorous intensity physical activity per week). Many of those who do not meet the recommended level were, however, entirely inactive. Approximately half of patients reported never discussing physical activity with a healthcare professional (and in particular those diagnosed within the last year), and half reported they would like help from a healthcare professional to become more physically active. Walking was the most preferred physical activity.

A survey of GPs carried out by Kingsbury and Conaghan[12] (2012) found that GPs reported recommending exercise to 69% of patients with osteoarthritis and was the most commonly used management strategy. GPs also reported referring 31% of patients with osteoarthritis to a physiotherapist.

The Paskins et al review[13] of literature on patient experiences in primary care and GP attitudes to and beliefs about osteoarthritis (2014) found that GPs have described getting patients to change their lifestyle, including exercise and weight loss, as challenging and described patients as generally unwilling to change, having 'learned to live' with their symptoms. GPs have also expressed uncertainty regarding exercise prescriptions.

Healthy weight management

The survey of GPs carried out by Kingsbury and Conaghan (2012) found that GPs reported recommending diet to 37% of patients with osteoarthritis.

The Paskins et al review of literature on patient experiences in primary care and GP attitudes to and beliefs about osteoarthritis (2014) found that GPs have described getting patients to change their lifestyle, including exercise and weight loss, as challenging and described patients as generally unwilling to change, having 'learned to live' with their symptoms.

[11] Are patients meeting the physical activity guidelines? Physical activity participation, recommendation, and preferences among inner-city adults with rheumatic diseases. Manning et al. Journal of Clinical Rheumatology, volume 18, number 8, December 2012 399-404.
[12] Current osteoarthritis treatment, prescribing influences and barriers to implementation in primary care. Primary Health Care Research & Development 2012; 13: 373-381
[13] Comparison of patient experiences of the osteoarthritis consultation with GP attitudes and beliefs to OA: a narrative review. Paskins et al. BMC Family Practice 2014, 15:46

Biomechanical devices

The survey of GPs carried out by Kingsbury and Conaghan[14] (2012) found that GPs reported recommending walking aids/braces to just 12% of patients with osteoarthritis.

Invasive treatments

Analysis of Hospital Episode Statistics carried out by Lazic et al[15] found that between 2000 and 2012 there was a decrease in the number of most arthroscopic knee interventions being performed, except for meniscal resection, which increased. Meniscal resection accounts for the largest absolute number of arthroscopic procedures carried out. The authors concluded that it was difficult to explain the increase in the number of arthroscopic meniscal resections following the publication of NICE guidance on osteoarthritis in 2008 as it is well established that even partial meniscectomy is a risk factor for the development of osteoarthritis.

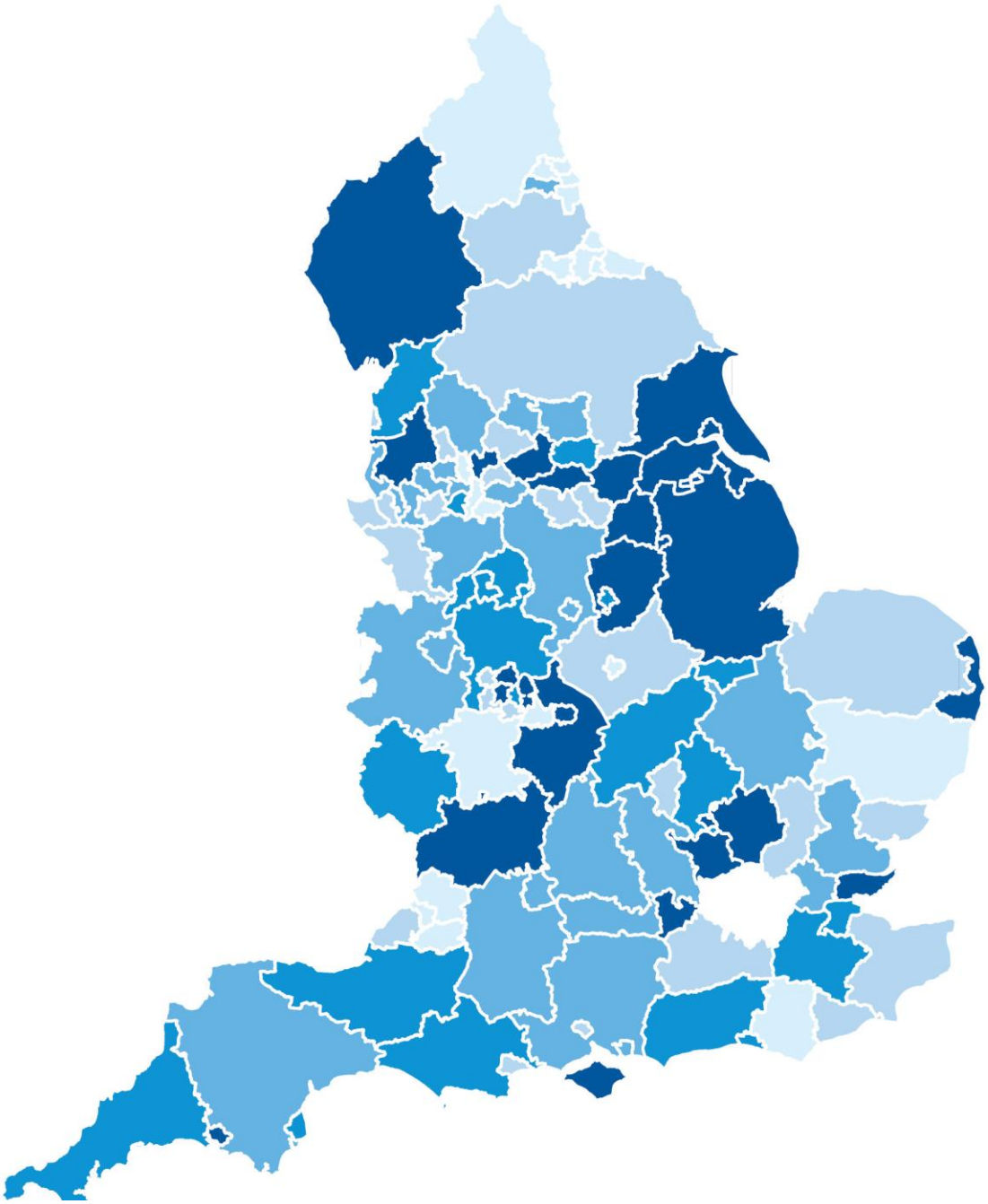
The NHS Atlas of variation[16] showed there was a 13-fold variation in the rate of knee washout across PCTs in England in 2009-10 (see Figure 1). The rate of knee washout procedures undertaken per 100,000 population ranged from 3.7 to 48.1. The report concludes that even allowing for differences in the prevalence of obesity and coding, the statistics suggest some unwarranted variation in the rate of knee washout procedures, particularly given that the circumstances in which it should be performed are well defined and limited to relatively small numbers of patients.

[14] Current osteoarthritis treatment, prescribing influences and barriers to implementation in primary care. Primary Health Care Research & Development 2012; 13: 373-381

[15] Arthroscopic washout of the knee: A procedure in decline. Lazic, Boughton, Hing, Bernard. The Knee 21 (2014) 631-634.

[16]

Figure 1: Rate of knee washout procedures undertaken per population by PCT: directly standardised rate per 100,000 population 2009-10 (dark=highest rate)



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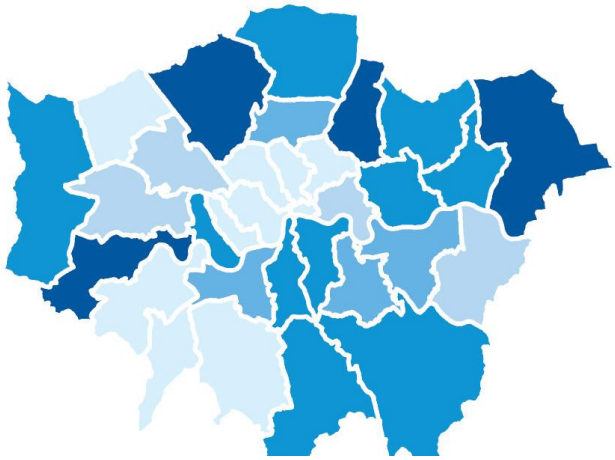


4.5 Pharmacological management

4.5.1 Summary of suggestions

Pain management

Effective pain management was identified as a priority by stakeholders. There was concern that pain is not always managed effectively for people with osteoarthritis which has a very significant impact on their quality of life. Stakeholders indicated the approach to pain management should take into account co-morbidities and the formulation of analgesics should be tailored to the patient's lifestyle.

Referral to pain specialist

A stakeholder suggested there are insufficient pain specialists and clinics in the UK and highlighted the importance of appropriate referral to specialists for people with osteoarthritis where pain cannot be managed effectively in primary care.

Use of topical NSAIDs

A stakeholder suggested that topical NSAIDS could be considered as first line analgesia where poly-pharmacy is a concern in those with multi-morbidity as there are likely to be fewer side effects.

4.5.2 Selected recommendations from development source

Table 9 below highlights recommendations that have been provisionally selected from the development source(s) that may support potential statement development. These are presented in full after table 9 to help inform the Committee's discussion.

Table 9 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Pain management	**Holistic approach to osteoarthritis assessment and management** NICE CG177 Recommendations 1.2.1 to 1.2.4 **Follow-up and review** NICE CG177 Recommendations 1.7.1 (KPI) and 1.7.2 (KPI)
Referral to pain specialist	Not directly covered in the identified development source and no recommendations are presented
Use of topical NSAIDs	**Pharmacological management** NICE CG177 Recommendation 1.5.1 and 1.5.3

Holistic approach to osteoarthritis assessment and management

NICE CG177 – Recommendation 1.2.1

Assess the effect of osteoarthritis on the person's function, quality of life, occupation, mood, relationships and leisure activities. Use figure 1 (see Appendix 2) as an aid to prompt questions that should be asked as part of the holistic assessment of a person with osteoarthritis.

This figure is intended as an 'aide memoir' to provide a breakdown of key topics that are of common concern when assessing people with osteoarthritis. For most topics there are a few suggested specific points that are worth assessing. Not every topic will be of concern for everyone with osteoarthritis, and there are other topics that may warrant consideration for particular people.

NICE CG177 – Recommendation 1.2.2

Agree a plan with the person (and their family members or carers as appropriate) for managing their osteoarthritis. Apply the principles in Patient experience in adult NHS services (NICE clinical guidance 138) in relation to shared decision-making.

NICE CG177 – Recommendation 1.2.3

Take into account comorbidities that compound the effect of osteoarthritis when formulating the management plan.

NICE CG177 – Recommendation 1.2.4

Discuss the risks and benefits of treatment options with the person, taking into account comorbidities. Ensure that the information provided can be understood.

Follow-up and review

NICE CG177 – Recommendation 1.7.1 (KPI)

Offer regular reviews to all people with symptomatic osteoarthritis. Agree the timing of the reviews with the person (see also recommendation 1.7.2). Reviews should include:

- monitoring the person's symptoms and the ongoing impact of the condition on their everyday activities and quality of life
- monitoring the long-term course of the condition
- discussing the person's knowledge of the condition, any concerns they have, their personal preferences and their ability to access services
- reviewing the effectiveness and tolerability of all treatments

- support for self-management.

NICE CG177 – Recommendation 1.7.2 (KPI)

Consider an annual review for any person with one or more of the following:

- troublesome joint pain
- more than one joint with symptoms
- more than one comorbidity
- taking regular medication for their osteoarthritis.

Pharmacological management

NICE CG177 – Recommendation 1.5.1

Healthcare professionals should consider offering paracetamol for pain relief in addition to core treatments (see recommendation 1.2.5); regular dosing may be required. Paracetamol and/or topical non-steroidal anti-inflammatory drugs (NSAIDs) should be considered ahead of oral NSAIDs, cyclo-oxygenase 2 (COX-2) inhibitors or opioids.

NICE CG177 – Recommendation 1.5.3

Consider topical NSAIDs for pain relief in addition to core treatments (see recommendation 1.2.5) for people with knee or hand osteoarthritis. Consider topical NSAIDs and/or paracetamol ahead of oral NSAIDs, COX-2 inhibitors or opioids.

4.5.3 Current UK practice

Pain management

A survey carried out by Kingsbury and Conaghan[17] (2012) found that GPs reported that achieving adequate pain control was the most challenging aspect of osteoarthritis management.

A study of adults over 50 years with prevalent knee pain carried out by Sheikh et al[18] confirmed previous study findings which show relatively high rates of use of recommended pharmacological treatments, relatively low levels of use of recommended non-pharmacological treatments, and often a lack of adequate symptom control with only 27% of patients indicating their symptoms were under control over a specific time period.

[17] Current osteoarthritis treatment, prescribing influences and barriers to implementation in primary care. Primary Health Care Research & Development 2012; 13: 373-381
[18] Osteoarthritis and the rule of halves. Osteoarthritis Cartilage April 2014 22(4) 535-539.

Jinks et al (2011)[19] examined the treatment given to a cohort of patients over 50 years that had consulted primary care for knee pain and found that 43% had been prescribed an opiod and 41% an NSAID. The study concluded that the prescription of NSAIDs was not seemingly related to severity of pain or disability. They found that 50% of patients with persistent and severe knee pain or disability are managed within primary care and are not referred on for consideration of joint surgery.

A study of the relative importance that UK physicians (primary care and specialist) attach to the benefits and risks of current drugs when making treatment decisions for patients with osteoarthritis carried out by Arden et al (2012)[20] concluded that:

- When presented with well-known benefits and risks of treatment for osteoarthritis, UK physicians placed greater importance on the risks than on the analgesic properties of the drug.
- Physicians considered reductions in ambulatory pain to be more important than the same reductions in resting pain (except for the improvement from mild to no pain).
- UK physicians placed little importance on reducing moderate pain to mild pain.
- UK physicians weighted the benefits and risks of treatment similarly, regardless of patient characteristics, when analysed by physician speciality.

Arden et al suggest their findings may indicate that physicians underestimate the effect of pain on patients overall quality of life.

Referral to pain specialist

The National Pain Audit[21] found that specialist pain services are delivering care to a group of people who report a very poor quality of life. They often have mainly musculoskeletal pain and many are of working age. The audit found high variation in access to multidisciplinary care (the essential requirement for specialist chronic pain services) across England. The report highlighted the unmet need for pain services for older people.

[19] Inequalities in primary care management of knee pain and disability in older adults: an observational cohort study. Jinks et al. Rheumatology 2011; 50:1869-1878.
[20] How do physicians weigh benefits and risks associated with treatments in patients with osteoarthritis in the United Kingdom? The Journal of Rheumatology 2012: 39:5
[21] The National Pain Audit 2010-12. Healthcare Quality Improvement Partnership (HQIP), the British Pain Society and Dr Foster

The survey carried out by Kingsbury and Conaghan[22] (2012) found that 44% of GPs felt that collaboration with a specialist team would enable GPs to manage osteoarthritis patients more effectively.

Use of topical NSAIDs

A survey carried out by Kingsbury and Conaghan[23] (2012) found that GPs reported prescribing paracetamol and/or topical NSAIDs/capsaicin to 64% of patients with osteoarthritis.

[22] Current osteoarthritis treatment, prescribing influences and barriers to implementation in primary care. Primary Health Care Research & Development 2012; 13: 373-381
[23] Current osteoarthritis treatment, prescribing influences and barriers to implementation in primary care. Primary Health Care Research & Development 2012; 13: 373-381

4.6 Referral for consideration of joint surgery

4.6.1 Summary of suggestions

Referral following core treatments

Stakeholder suggested that some people are currently referred for joint surgery without first being given information about the condition and advice on the core treatments of exercise and weight loss. It was felt that if this advice is given first it may reduce costs and visits to the orthopaedic surgeon.

Access criteria

Stakeholders were concerned there is currently considerable variation in the criteria used to decide if someone should be referred for joint replacement surgery across England and Wales. They suggested that in some areas the access criteria used are contrary to NICE guidance e.g. BMI, smoking, and therefore this is an important area for quality improvement.

4.6.2 Selected recommendations from development source

Table 10 below highlights recommendations that have been provisionally selected from the development source(s) that may support potential statement development. These are presented in full after table 10 to help inform the Committee's discussion.

Table 10 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Referral following core treatments	**Referral for consideration of joint surgery** NICE CG177 Recommendations 1.6.1 and 1.6.6
Access criteria	**Referral for consideration of joint surgery** NICE CG177 Recommendations 1.6.2 (KPI), 1.6.3, 1.6.4 (KPI) and 1.6.5

Referral for consideration of joint surgery

NICE CG177 – Recommendation 1.6.1

Clinicians with responsibility for referring a person with osteoarthritis for consideration of joint surgery should ensure that the person has been offered at least the core (non-surgical) treatment options (see recommendation 1.2.5).

NICE CG177 – Recommendation 1.6.2 (KPI)

Base decisions on referral thresholds on discussions between patient representatives, referring clinicians and surgeons, rather than using scoring tools for prioritisation.

NICE CG177 – Recommendation 1.6.3

Consider referral for joint surgery for people with osteoarthritis who experience joint symptoms (pain, stiffness and reduced function) that have a substantial impact on their quality of life and are refractory to non-surgical treatment.

NICE CG177 – Recommendation 1.6.4 (KPI)

Refer for consideration of joint surgery before there is prolonged and established functional limitation and severe pain.

NICE CG177 – Recommendation 1.6.5

Patient-specific factors (including age, sex, smoking, obesity and comorbidities) should not be barriers to referral for joint surgery.

NICE CG177 – Recommendation 1.6.6

When discussing the possibility of joint surgery, check that the person has been offered at least the core treatments for osteoarthritis (see recommendation 1.2.5), and give them information about:

- the benefits and risks of surgery and the potential consequences of not having surgery
- recovery and rehabilitation after surgery
- how having a prosthesis might affect them
- how care pathways are organised in their local area.

4.6.3 Current UK practice

Referral following core treatments

McHugh et al carried out a longitudinal study of patients with osteoarthritis referred by their GP to an orthopaedic surgeon. The study found that in patients with osteoarthritis newly referred for consideration of total joint replacement, only 50% ended up having total hip replacement within a year, and among knee patients, only 33% had a total knee replacement. Those who had a replacement had been diagnosed with osteoarthritis for a shorter time, reported more frequent pain, were more likely to use a walking stick, and had worse pain, stiffness, and physical functioning. The study concludes that given the extent of variation in surgical

outcome observed, it is likely that clear information is needed for patients and GPs considering total joint replacement as an option. If patients do not wish to have surgery, or are not appropriate candidates, other options should be considered, or more management and assessment should be provided within primary care before referral to the orthopaedic surgeon.

Access criteria

A report by the Royal College of Surgeons of England (2014)[24] indicates that 73% of CCGs reviewed do not follow NICE and clinical guidance on referral for hip replacement or have no commissioning policy in place for this procedure. 29% of CCGs (15 of 52) had no policies in place whatsoever. 44% of CCGs (23 of 52) had arbitrary referral criteria in place. These policies broadly require patients to be experiencing a certain amount of pain or disability (with no consistency in the threshold used across different CCGs) or for patients to lose weight before surgery. Sixteen CCGs imposed an Oxford hip score threshold as part of a case management approach. Seven CCGs had some form of criteria related to weight or body mass index (BMI).

A study of variations in access to surgery among older people in 2011-12[25] found there was a 17-fold difference in the rate of knee replacements for those aged 75 years and over across local areas compared with a 7-fold variation for those aged 65-74 years. The majority of CCGs also showed a lower rate of knee replacements for those aged over 75 years compared with the rate for those aged 65-74 years. The study concluded that variation across CCGs increased significantly among the over-75s for knee replacements and this may be due to local attitudes or policies on referring people with osteoarthritic joint pain for surgery.

A study of inequalities in primary care management of knee pain by Jinks et al[26] found that older people were less likely to be referred to secondary care, and a possible reason may be comorbidity. They did find, however, that once referred, those of older age are more readily accepted for replacement surgery. The study examined variation in management by patient characteristics and concluded that inequalities in the referral of knee problems were not generally observed although there were some trends towards differences in likelihood of receiving a total knee replacement.

[24] Is Access to Surgery a Postcode Lottery? The Royal College of Surgeons of England.
[25] Access all ages 2; Exploring variations in access to surgery among older people. MHP Health
[26] Inequalities in primary care management of knee pain and disability in older adults: an observational cohort study. Jinks et al. Rheumatology 2011; 50:1869-1878.

4.7 Follow-up and review

4.7.1 Summary of suggestions

Regular follow-up and review

Stakeholders highlighted that regular follow-up and review of patients with osteoarthritis is important but is not always happening. The purpose of the review should be to monitor progress with and impact of core treatments and effectiveness of pain management, in light of co-morbidities and overall quality of life.

Data collection and audit

Stakeholders suggested there should be more routine and standardised collection of data on the outcomes of conservative treatments and advice to assess quality and effectiveness. This will help to improve quality of care overall, ensure efficient use of resources and improve patient outcomes. A specific suggestion was that data collection on musculoskeletal morbidity and interventions such as weight loss and exercise advice and referral for physiotherapy should be added to the care data extraction criteria.

One stakeholder identified a particular need to monitor the number and frequency of corticosteroid injections by GPs and specialists to identify the long term safety, efficacy and risks of repeated treatment.

4.7.2 Selected recommendations from development source

Table 11 below highlights recommendations that have been provisionally selected from the development source(s) that may support potential statement development. These are presented in full after table 11 to help inform the Committee's discussion.

Table 11 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Regular follow-up and review	**Follow-up and review** NICE CG177 Recommendations 1.7.1 (KPI) and 1.7.2 (KPI)
Data collection and audit	**Follow-up and review** NICE CG177 Recommendations 1.7.1 (KPI)

Follow-up and review

NICE CG177 – Recommendation 1.7.1 (KPI)

Offer regular reviews to all people with symptomatic osteoarthritis. Agree the timing of the reviews with the person (see also recommendation 1.7.2). Reviews should include:

- monitoring the person's symptoms and the ongoing impact of the condition on their everyday activities and quality of life
- monitoring the long-term course of the condition
- discussing the person's knowledge of the condition, any concerns they have, their personal preferences and their ability to access services
- reviewing the effectiveness and tolerability of all treatments
- support for self-management.

NICE CG177 – Recommendation 1.7.2 (KPI)

Consider an annual review for any person with one or more of the following:

- troublesome joint pain
- more than one joint with symptoms
- more than one comorbidity
- taking regular medication for their osteoarthritis.

4.7.3 Current UK practice

Regular follow-up and review

Clarson et al[27] (2013) carried out a survey of GPs to investigate GPs' views on and practice of monitoring osteoarthritis. The majority of GPs participating in the study felt that monitoring patients with osteoarthritis was important; in line with current guidance, and that GPs were the most appropriate group to undertake this task. However, this was not reflected in their reported current practice with only 15% indicating that they monitored osteoarthritis routinely, and 45% indicating that they did not monitor any of their osteoarthritis patients. The most common reasons given by GPs for this inconsistency in practice were workload and time constraints and the desire to encourage patient self-monitoring.

[27] Monitoring Osteoarthritis: A Cross-sectional Survey in General Practice. Clarson et al. Clinical Medicine Insights: Arthritis and Musculoskeletal Disorders 2013:6 85–91

A qualitative study carried out by Mann et al[28] found that some patients with osteoarthritis indicated that they would value the reassurance and support provided by regular follow-up even if their situation had not deteriorated. While some health professionals agreed that a long term condition model of care would be more appropriate than an acute episodic model, others suggested regular follow-up of patients with osteoarthritis would be a waste of their time.

Data collection and audit

A survey carried out by Clarson et al (2013) found that GPs indicated that pain and function should be monitored for people with osteoarthritis. Preferred indicators for monitoring pain included analgesia use favoured by 84.1% and pain intensity by 79.9%. Most GPs favoured simply asking the patient about how severe their pain was, but both visual analogue scales and 10-point numerical rating scales were suggested by participants. The indicators of function that GPs felt should be monitored included level of disability, supported by 83.3%, and interference of symptoms with activities of daily living, supported by 81.8%. Less than half (43.9%) suggested how this might be achieved, 10% of whom referred to a standardized assessment tool, but only 1.4% were able to name a specific tool that might be used for this purpose. X-ray changes were least popular for monitoring.

Overall the survey showed that GPs favoured monitoring physical function, pain, and analgesia use over monitoring measures of BMI, self-management plans, and exercise advice.

An expert cited an example of a recent attempt to reduce unwarranted variation in referral rates for surgery for people with osteoarthritis that experienced difficulties because data on referral to community/interface/referral management services were not available. NHS London advised *"data would need to be routinely available across both community and hospital providers at a regional level before comparisons could be drawn and performance assessed across the different PCT areas".*

[28] Health Care Provision for Osteoarthritis: Concordance Between What Patients Would Like and What Health Professionals Think They Should Have. Arthritis Care & Research Vol. 63, No. 7, July 2011, pp 963–972.

4.8 Additional areas

4.8.1 Summary of suggestions

The improvement areas below were suggested as part of the stakeholder engagement exercise, however they were felt to be either outside the remit of the quality standard referral and the development sources, covered by an existing quality standard or require further discussion by the Committee to establish potential for statement development.

There will be an opportunity for the QSAC to discuss these areas at the end of the session on 18 September 2014.

Prevention of osteoarthritis in the population

Stakeholder suggested that as obesity and being overweight are recognised as risk factors for osteoarthritis interventions to promote healthy weight management in the population should be prioritised,

Training of primary care staff in conservative management

Stakeholders highlighted that more training of primary care staff is needed in the assessment and conservative management of osteoarthritis including exercise, weight management and pain management as there is evidence that practitioners lack confidence in delivering these interventions.

Intra-articular stem cell injections

Stakeholder indicated that intra-articular stem cell injections have been shown to be successful in promoting the growth of new cartilage and thereby helping to prevent or delay the progression of osteoarthritis.

Vitamin D

A stakeholder suggested that people with osteoarthritis are usually deficient in Vitamin D and that supplementing the Vitamin D level will help to reduce pain, improve muscle strength and make exercise easier.

Fatty acids/dietary advice

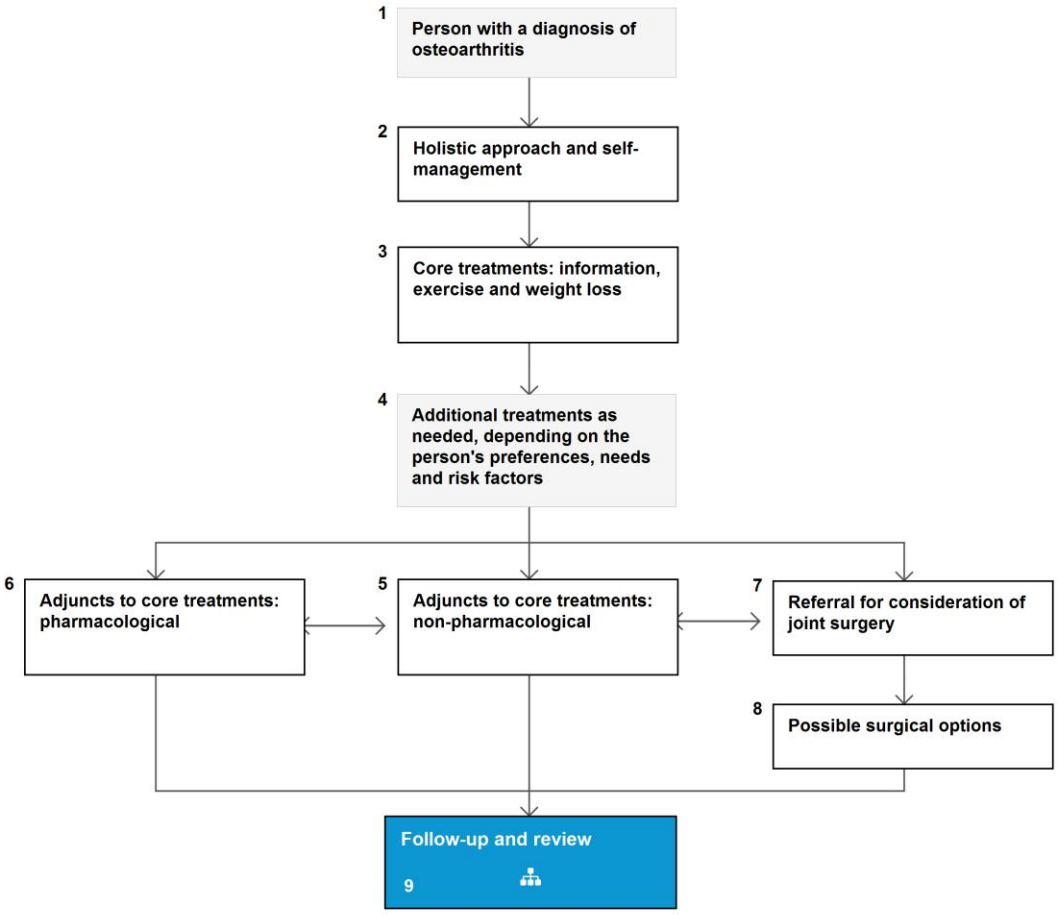
The stakeholder suggested that people with osteoarthritis should have a fatty acid test and if required appropriate dietary advice should be given to help reduce inflammation and support better joint movement and exercise.

Stronger evidence base for orthotic management

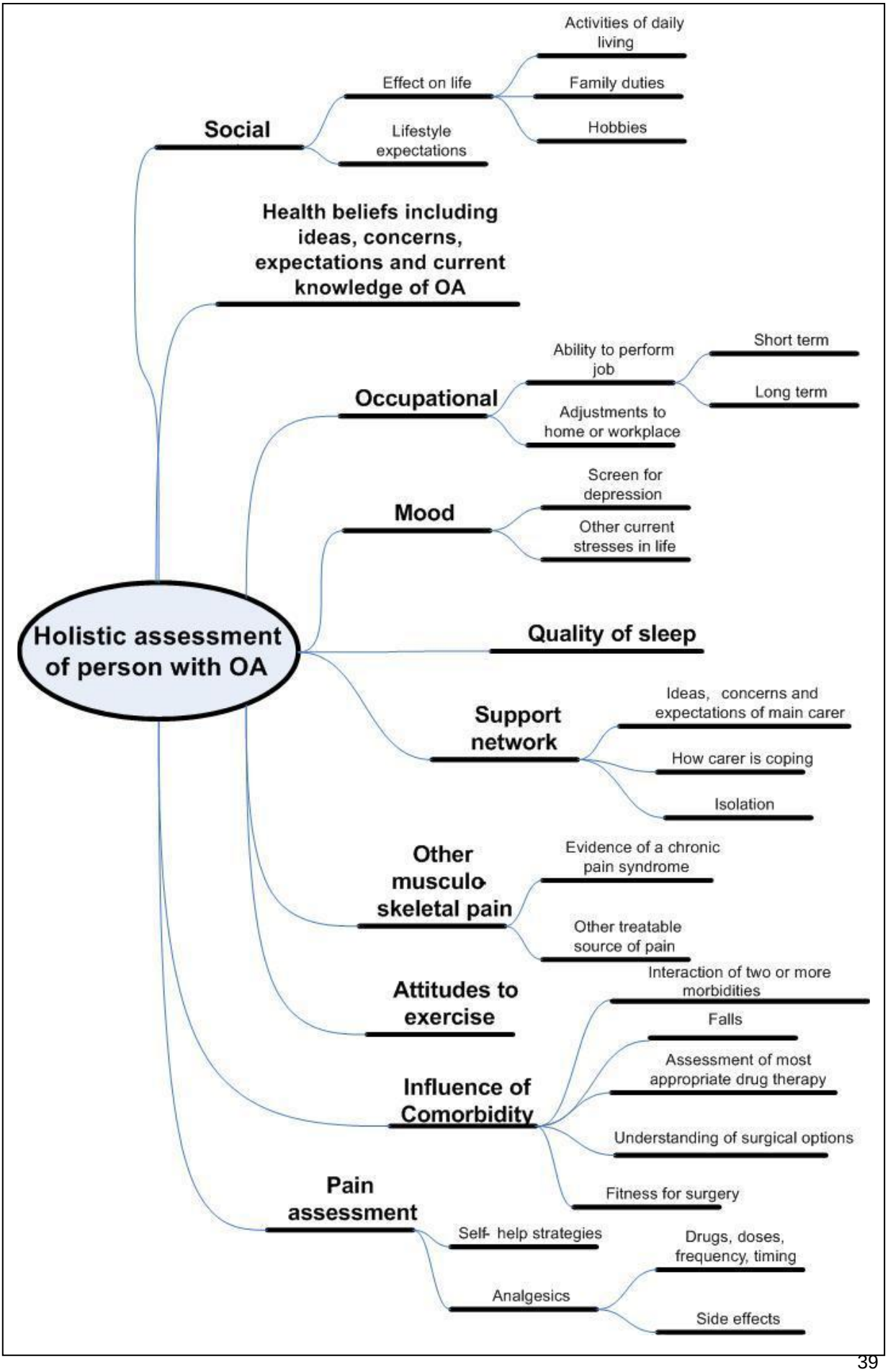
Stakeholder suggested that improved evidence is required to further the understanding of orthotic devices and the role that they play in the management of

osteoarthritis in order to support improved prescription and to ensure provision leads to greater quality of life for patients whilst also delivering cost-savings to the NHS. (Clinical guideline includes a research recommendation on biomechanical interventions in the management of osteoarthritis).

Appendix 1: NICE care pathway for osteoarthritis



Appendix 2: Holistic assessment algorithm



Appendix 3: Key priorities for implementation (CG177)

Recommendations that are key priorities for implementation in the source guideline and that have been referred to in the main body of this report are highlighted in grey.

Holistic approach to osteoarthritis assessment and management

Offer advice on the following core treatments to all people with clinical osteoarthritis. [recommendation 1.2.5]

- Access to appropriate information (see recommendation 1.3.1).
- Activity and exercise (see recommendation 1.4.1).
- Interventions to achieve weight loss if the person is overweight or obese (see recommendation 1.4.3 and Obesity

Education and self-management

Offer accurate verbal and written information to all people with osteoarthritis to enhance understanding of the condition and its management, and to counter misconceptions, such as that it inevitably progresses and cannot be treated. Ensure that information sharing is an ongoing, integral part of the management plan rather than a single event at time of presentation. [recommendation 1.3.1]

Agree individualised self-management strategies with the person with osteoarthritis. Ensure that positive behavioural changes, such as exercise, weight loss, use of suitable footwear and pacing, are appropriately targeted. [recommendation 1.3.2]

Non-pharmacological management

Advise people with osteoarthritis to exercise as a core treatment (see recommendation 1.2.5), irrespective of age, comorbidity, pain severity or disability. Exercise should include:

- local muscle strengthening **and**
- general aerobic fitness.

  It has not been specified whether exercise should be provided by the NHS or whether the healthcare professional should provide advice and encouragement to the person to obtain and carry out the intervention themselves. Exercise has been found to be beneficial but the clinician needs to make a judgement in each case on how to effectively ensure participation.

This will depend upon the person's individual needs, circumstances and self-motivation, and the availability of local facilities.[recommendation 1.4.1]

Referral for consideration of joint surgery

Base decisions on referral thresholds on discussions between patient representatives, referring clinicians and surgeons, rather than using scoring tools for prioritisation. [recommendation 1.6.2]

Refer for consideration of joint surgery before there is prolonged and established functional limitation and severe pain. [recommendation 1.6.4]

Follow-up and review

Offer regular reviews to all people with symptomatic osteoarthritis. Agree the timing of the reviews with the person (see also recommendation 1.7.2). Reviews should include:

- monitoring the person's symptoms and the ongoing impact of the condition on their everyday activities and quality of life
- monitoring the long-term course of the condition
- discussing the person's knowledge of the condition, any concerns they have, their personal preferences and their ability to access services
- reviewing the effectiveness and tolerability of all treatments
- support for self-management. [recommendation 1.7.1]

Consider an annual review for any person with one or more of the following:

- troublesome joint pain
- more than one joint with symptoms
- more than one comorbidity
- taking regular medication for their osteoarthritis. [recommendation 1.7.2]

Appendix 4: Suggestions from stakeholder engagement exercise

ID	Report Section	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
001	4.1	British Infection Association	Key area for quality improvement 1	The BIA is anxious that mention should be made of the need to differentiate symptoms and signs of septic arthritis and/or osteomyelitis in patients with OA who present with acutely worsening symptoms and signs.	Devastating consequences of missing earliest opportunity to diagnose infection and institute appropriate treatment.	Dear NICE, the British Infection Association has only one comment to contribute. That is that mention should be made of the important need to be aware of septic arthritis and osteomyelitis as part of the differential diagnosis of a patient who has symptoms and signs of OA because of the devastating consequences of missing such infections. Yours faithfully, Dr Peter Cowling, Guidelines Secretary, BIA
002	4.1	Biomet	All patients presenting with persistent knee pain should have a baseline validated imaging study.	X-ray and MRI are the best tools to grade knee OA. They allow for a clear picture of disease progression. In fact, early MRI can detect changes early enough to modify the disease progression.	This will identify early OA allowing the patient and caregiver to impact disease progression through appropriate care. Early diagnosis empowers the patient and physician to employ self-management such as weight loss and exercise, as well as, providing opportunity for treatments which may delay or prevent joint replacement.	Methods to Assess OA Progression in Clinical Trials of Cartilage Treatments EULAR EVIDENCE BASED RECOMMENDATIONS FOR THE DIAGNOSIS OF KNEE OSTEOARTHRITIS  MMI Literature Review -- Scoring Sys
003	4.2	Arthritis Care	Osteoarthritis – assessment of co-	Patients presenting with osteoarthritis may also	GPs to be prompted to assess patients for any co-morbidities	‘Clinical comorbidity in patients with osteoarthritis: a case-control

ID	Report Section	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			morbidities	have co-morbidities such as cardio-vascular conditions. Patients with osteoarthritis may be more at risk of developing cardio-vascular illnesses.	that may compound the effect of their condition. An assessment of co-morbidities should also be linked to a more holistic appraisal of the patient's wider needs, including their emotional well-being.	study of general practice consulters in England and Wales' Keele University 2003.
004	4.2	Biomet	Implement uniform clinical assessment tools for patients presenting with knee pain	Provides standard measurement of pain and function in patients presenting with knee OA. This information will help standardize the care pathway.	This will allow patients to be diagnosed early enough to benefit from self-management.	EULAR EVIDENCE BASED RECOMMENDATIONS FOR THE DIAGNOSIS OF KNEE OSTEOARTHRITIS How do GPs use x rays to manage chronic knee pain in the elderly? A case study Ann Rheum Dis 2003;62:450–454 Early diagnosis to enable early treatment of pre-osteoarthritis Chu et al. Arthritis Research & Therapy 2012, 14:212 http://arthritis-research.com/content/14/3/212  EULAR Guidance on Diagnosising Knee OA.

ID	Report Section	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
005	4.2	Grünenthal Ltd	People with osteoarthritis have an assessment of pain severity and its impact on physical, psychological and social wellbeing at diagnosis and when response to treatment is assessed.	Assessing pain severity in people with osteoarthritis at diagnosis is important because it provides a benchmark for treatment efficacy to be measured against at all subsequent assessments, which is essential to monitor response to treatment. A holistic assessment needs to take place at diagnosis and when assessing response to treatment that includes reference to the severity and impact of the disease, to enable treatment to be optimised.	Osteoarthritis is the most common cause of disability in the UK. Pain, stiffness, joint deformity and loss of joint mobility have a substantial impact on individuals. Pain is the commonest reason for patients to present to their GP and over half the people with osteoarthritis say that pain is their worse problem. Many people with osteoarthritis experience persistent pain. Severity of pain is also important, with the likelihood of mobility problems increasing as pain increases. It can affect every aspect of a person's daily life, and overall quality of life.	Arthritis Research Campaign. Arthritis: the big picture. London. Arthritis Research Campaign, 2002. Available from: www.arc.org.uk Wilkie R, Peat G, Thomas E, Croft PR. The potential determinants of restricted mobility outside the home in community-dwelling older adults with knee pain. 2006;
006	4.2	Royal College of Nursing	Pain assessment & management	Have an appropriate pain assessment that has an element of measurement for that patient and at some time point (using person centred care (PCC) approach) review effectiveness of strategies to reduce pain /enhance function	Reduce costly purchases of ineffective over the counter and mail order products. Enable patients to recognise how they should assess benefits of treatments/devices. Ensure those with significant unrelieved pain get appropriate analgesia.	http://www.nice.org.uk/guidance/CG177/chapter/introduction
007	4.2	SCM1	Key area for quality	NICE CG177 states that a	OA Nation suggests that only	Arthritis Care. OA Nation 2012.

ID	Report Section	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			improvement 2 Encouraging patient involvement in their management plan	plan of management should be agreed with the person and/or family members/carers. Patients are more likely to comply with management options if they have been involved in the decision process. This is particularly important with regards to the management of OA as a number of the options are patient driven e.g. weight loss and exercise. Also, increasing concerns are being raised with regards to the safety and efficacy of the analgesics available so maximising the effect of "safer" interventions would be beneficial. Patients can also be referred for surgery too early or too late so having them more involved in any decision making would help make sure that the right decisions are made for them.	about 18% of patients with OA have an agreed care plan.	Available at: http://www.arthritiscare.org.uk/LivingwithArthritis/oanation-2012 (accessed on 11/11/13)

ID	Report Section	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
008	4.3	Primary Care Rheumatology Society	Key area for quality improvement 1	Osteoarthritis is still seen by the majority of both patients and clinicians as a condition with an inevitable and inexorable decline. There is good evidence in the literature that this is not the case and that a significant proportion do not progress. The attitude to the condition and the expectation of outcomes from conservative management is assisted by a better understanding of what is happening.	Providing each patient with information about the nature of osteoarthritis including provision of written educational materials	NICE
009	4.3	Primary Care Rheumatology Society	Key area for quality improvement 4	Osteoarthritis is associated with both acute and chronic pain. People with chronic pain mainly have musculoskeletal pain. A service for osteoarthritis is an ideal opportunity to provide information about the nature of chronic pain and the approaches that can be taken to manage pain effectively	Providing written educational material about chronic pain to each patient.	National Pain Audit Final Report 2010 - 2012
010	4.3	Royal College of	Education & self-	Access to knowledgeable	Reduce reliance on Medical	http://www.nice.org.uk/guidance/C

ID	Report Section	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		Nursing	Management	and basic support that can signpost to low cost but evidence based approaches. Also point patients to websites that are non-promotional and professionally endorsed.	approaches to resolving issues. Sometimes, parts of service get 'lost' or 'reduced' as costs go up so the emphasis on the need for an educational input is well stated. Conditions such as Osteoarthritis or Low Back Pain can be managed well with partnership between patients/healthcare providers but the educational aspect of support should also be included.	G177/chapter/introduction
011	4.3	SCM3	Written information on osteoarthritis and treatments recommended by NICE	The NIHR funded MOSAICS trial (Managing Osteoarthritis in Consultations) investigating a model consultation as a way of increasing the uptake of NICE guidelines has highlighted that written information is important for quality care for OA. Patients prefer non-pharmacological approaches and support for self-management over analgesia but general practitioners and practice nurses feel uncertain	If an adult 45 years and over with peripheral joint pain presents to primary care and has a working diagnosis of osteoarthritis then written information should be offered because patients want information on self-management, exercises and lifestyle approaches. Patient experiences shared within written information can be beneficial - individuals are reassured that others have similar experiences. What isn't recommended by NICE is also important to highlight. Health care professionals and	http://www.keele.ac.uk/media/keeleuniversity/ri/primarycare/pdfs/OA_Guidebook.pdf Grime J, Dudley B. Developing written information on osteoarthritis for Patients: facilitating user involvement by exposure to qualitative research. Health Expect. 2014 Apr;17(2):164-73. doi: 10.1111/j.1369-7625.2011.00741.x. Epub 2011 Nov 10. PubMed PMID: 22070445. Mann C, Gooberman-Hill R.

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				about and lack confidence in giving such interventions. There is also evidence that patients don't receive treatments with proven clinical and cost effectiveness despite being recommended by NICE guidelines and there is large variation in practice. Health care professionals often feel that they have little to offer in consultations for OA. Patients want their condition to be taken seriously but in routine primary care consultations there is often limited time to address joint pain. Written information is a core requirement of a consultation for OA (NICE 2008 & 2014) and yet in usual practice only 4% of patients consulting their GP will have a record of having received this. Patients and health care professionals want continuity of care and	patients often underestimate the benefit of core treatment such as exercise on pain relief. Written information discussed in the consultation can empower the patient to make decisions, understand their illness and look after themselves appropriately. Written information allows GPs and Practice Nurses something positive to offer in the consultation Written information can also help the conversation about diagnosis. Qualitative evidence indicates that 'ageing' and 'wear and tear' are frequently used in consultations. Findings from the MOSAICS study suggest that patients appreciate a verbal diagnosis and explanation (alongside written information) with positive messages such as 'wear and repair'.	Health care provision for osteoarthritis: concordance between what patients would like and what health professionals think they should have. Arthritis Care Res (Hoboken). 2011 Jul;63(7):963-72. doi: 10.1002/acr.20459. PubMed PMID: 21387574. Morden A, Jinks C, Ong BN. Understanding Help Seeking for Chronic Joint Pain: Implications for Providing Supported Self-Management. Qual Health Res. 2014 Jun 16;24(7):957-968. [Epub ahead of print] PubMed PMID: 24970250. Morden A, Jinks C, Ong BN. '...I've found once the weight had gone off, i've had a few twinges, but nothing like before'. Exploring weight and self-management of knee pain. Musculoskeletal Care. 2014 Jun;12(2):63-73. doi: 10.1002/msc.1054. Epub 2013 Jul 17. PubMed PMID:

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				consistency of care. Quality standards have been identified via a systematic review.		23861332. Morden A, Jinks C, Bie Nio Ong. Lay models of self-management: how do people manage knee osteoarthritis in context? Chronic Illn. 2011 Sep;7(3):185-200. doi: 10.1177/1742395310391491. Epub 2011 Feb 22. PubMed PMID: 21343222. Ong BN, Jinks C, Morden A. The hard work of self-management: Living with chronic knee pain. Int J Qual Stud Health Well-being. 2011;6(3). doi: 10.3402/qhw.v6i3.7035. Epub 2011 Jul 11. PubMed PMID: 21760837; PubMed Central PMCID: PMC3136152. Ong BN, Morden A, Brooks L, Porcheret M, Edwards JJ, Sanders T, Jinks C, Dziedzic K. Changing policy and practice: making sense of national guidelines for osteoarthritis. Soc Sci Med. 2014 Apr;106:101-9. doi: 10.1016/j.socscimed.2014.01.036. Epub 2014 Jan 30. PubMed

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						PMID: 24556289. Paskins Z, Sanders T, Hassell AB. Comparison of patient experiences of the osteoarthritis consultation with GP attitudes and beliefs to OA: a narrative review. BMC Fam Pract. 2014 Mar 19;15:46. doi: 10.1186/1471-2296-15-46. PubMed PMID: 24641214; PubMed Central PMCID: PMC3995321. Paskins Z, Sanders T, Hassell AB. What influences patients with osteoarthritis to consult their GP about their symptoms? A narrative review. BMC Fam Pract. 2013 Dec 20;14:195. doi: 10.1186/1471-2296-14-195. Review. PubMed PMID: 24359101; PubMed Central PMCID: PMC3890599. Edwards JJ, Khanna M, Jordan KP, Jordan JL, Bedson J, Dziedzic KS. Quality indicators for the primary care of osteoarthritis: a systematic

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						review. Ann Rheum Dis. 2013 Nov 27. doi: 10.1136/annrheumdis-2013-203913. [Epub ahead of print] PubMed PMID: 24288012. Østerås N, Garratt A, Grotle M, Natvig B, Kjeken I, Kvien TK, Hagen KB. Patient-reported quality of care for osteoarthritis: development and testing of the osteoarthritis quality indicator questionnaire. Arthritis Care Res (Hoboken). 2013 Jul;65(7):1043-51. doi: 10.1002/acr.21976. PubMed PMID: 23401461. Strömbeck B, Petersson IF, Vliet Vlieland TP; EUMUSC.net WP6 group. Health care quality indicators on the management of rheumatoid arthritis and osteoarthritis: a literature review. Rheumatology (Oxford). 2013 Feb;52(2):382-90. doi: 10.1093/rheumatology/kes266. Epub 2012 Oct 19. Review.

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						PubMed PMID: 23086518. In press: Edwards JJ et al Quality of Care for Osteoarthritis: the effect of a point-of-care consultation recording template Rheumatology
012	4.3	SCM4	Key area for quality improvement 4 Information at all points in the person's pathway.	It is recognised that good information given in a variety of mediums is essential to support the person living with OA's journey along their pathway. However, many people tell us they do not get this support or find it is inappropriate or difficult to understand. E.g. for those unable to read English, are visually impaired, have little or no literacy skills and do not have internet access. Better signposting is needed to sources of information that are appropriate and easily accessible.	There have been a lot of good initiatives from NHS Choices and also commendable publications and also online, helplines / one to one support and other formats from patient groups and charities. It is important that information is produced that is free, appropriate and accessible to all people living with OA. This should be considered a major area of improvement which will enhance the person's relationship with their medical professional. Enabling better communication and understanding of treatments and the OA process. Furthermore one which is easily remedied at a low cost in time and money with good signposting to external agencies who are quality	NICE OA Guidance 2014 http://www.nice.org.uk/guidance/CG177/chapter/1-Recommendations Osteoarthritis in general practice, Arthritis Research UK 2013 file:///C:/Users/Penny/Downloads/Osteoarthritis%20in%20general%20practice%20%20July%202013%20%20Arthritis%20Research%20UK%20PDF%20421%20MB.pdf OA Nation 2012, Arthritis Care http://www.arthritiscare.org.uk/LivingwithArthritis/oanation-2012/registration/f_form_acknowledge_msc_e ARMA Standards of Care for Osteoarthritis 2004: http://arma.uk.net/wp-

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					marked by the Information Standard. This covers all potential information formats and platforms e.g. print, website, film, audio, one to one support and social media, to name but a few. Making it easy at point of contact to give a contact number or website to the person as appropriate.	content/uploads/pdfs/oa06.pdf
013	4.3	Royal College of Nursing	Maintenance of Optimal Mobility	This is important for the patient's self-esteem and maintenance of their overall mobility; It gives the patient a self-management strategy	It is a holistic approach to care. It ensures patients get appropriate timely advice on areas such as: ✓ Exercise options ✓ Weight loss programmes ✓ Footwear advice This gives them a complete management plan they can be involved in. There needs to be a standardised pathway of care and assisting patients to make lifestyle changes encourages positivity	See arthritis research uk

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014	4.3	SCM1	Key area for quality improvement 1 Encouraging exercise and self-management e.g. Escape Knee	Both exercise and self - management are regarded as being core management principles for Osteoarthritis in the NICE OA Guidelines. .	Access to physiotherapy services across England and Wales appears to be variable. In my locality, patients with OA knee are often spoken to on the telephone, sent an exercise sheet and advised to ring back if their pain doesn't improve. They generally don't. Patients in pain can be reticent at exercising without any support as they are concerned that they may do harm/cause further damage. Pulmonary rehabilitation and Cardiac rehabilitation programmes both appear to be popular and effective with patients. Offering something similar to patients with OA e.g. the Escape Knee programme could be beneficial. (Escape Knee has been shown to have positive effects on function 6/12 after the intervention has finished. It also achieves similar levels of functionality as individual rehab but at half the cost)	Hurley MV, Walsh NE, Mitchell HL, Pimm TJ, Patel A, Williamson E, Jones RH, Dieppe PA, Reeves BC. Clinical effectiveness of a rehabilitation program integrating exercise, self-management, and active coping strategies for chronic knee pain: a cluster randomized trial. Arthritis Rheum (2007) 57 (7): 1211-9 Hurley MV, Walsh NE, Mitchell HL, Pimm TJ, Williamson E, Jones RH, Reeves BC, Dieppe PA, Patel A. Economic evaluation of a rehabilitation programme integrating exercise, self-management, and active coping strategies for chronic knee pain. Arthritis Rheum (2007) 57 (7); 1220-1229
015	4.3	SCM2	1. Improve delivery of core	Self-management, education about the	Core recommendations are not currently in everyday use in	NICE 2014 CG177 Osteoarthritis

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			treatments in primary care for patients with osteoarthritis	condition, weight loss (for lower limb OA, if overweight) and advice on activity and exercise are effective for management and treatment of OA, based on CG 177. This applies to people with OA at all stages of disease, including when discussing joint replacement surgery.	general practice. Suggestions for delivery of self-management advice in Primary Care are being developed and validated.	Porcheret M, Jordan K, Jinks C, Croft P (2007). Primary care treatment of knee pain – A survey in older adults. Rheumatology 46: 1694–700. Dziedzic 2013 Musculoskeletal Care Implementing the NICE Osteoarthritis Guidelines in Primary Care- A Role for Practice Nurses Finney 2013 Arthritis Care & Research Defining the Content of an Opportunistic Osteoarthritis Consultation With Primary Health Care Professionals- A Delphi Consensus Study  Supporting Papers IAB 2014-08-04.zip

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016	4.3	SCM4	Key area for quality improvement 2 Maintaining healthy joints through self care	People living with OA should be aware that it is important to maintain and active life and an optimum BMI. However this is not always the case and there is evidence that although people living with OA know that exercise and weight loss are key factors to their maintaining healthy joints and managing their symptoms there is a lack of information and support to help them do this.	People living with OA need support to enable them to take action towards positive lifestyles which include maintaining a healthy weight and keeping active on a regular basis. This balance is often very hard to achieve as an individual if you are healthy but with the added burden of OA it is a key area where health professionals can support. This would include giving individual support, appropriate referrals to other allied health professionals. e.g. physiotherapists, dieticians and nutritionists Some people living with OA respond very well to group activities in these areas which may include self management programmes in the form of classes or support groups. Others have a preference for one to one interventions which would include: help line services, counselling, CBT and web based support e.g. forums and chat services. Many of these are outside the NHS supported services and provided freely the	ESCAPE Knee Pain http://www.kcl.ac.uk/iop/depts/hspr/research/cemph/latest/ESCAPEAP.pdf NICE OA Guidance 2014 http://www.nice.org.uk/guidance/CG177/chapter/1-Recommendations Osteoarthritis in general practice, Arthritis Research UK 2013 file:///C:/Users/Penny/Downloads/Osteoarthritis%20in%20general%20practice%20%20July%202013%20%20Arthritis%20Research%20UK%20PDF%20421%20MB.pdf OA Nation 2012, Arthritis Care http://www.arthritiscare.org.uk/LivingwithArthritis/oanation-2012/registration/f_form_acknowledge_msc_e ARMA Standards of Care for Osteoarthritis 2004: http://arma.uk.net/wp-content/uploads/pdfs/oa06.pdf

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					third sector. Key to this would be a referral system to such support and commissioning of these services. Active encouragement by the key health professional involving the person to make informed choices and change their lifestyle is essential.	
017	4.4	Primary Care Rheumatology Society	Key area for quality improvement 2	Exercise is a core treatment for osteoarthritis yet there is recent evidence that both patients and GPs suggest rest when there is joint pain from osteoarthritis. In order for patients to engage fully written material for them to refer to is helpful.	Providing written advice about what types of exercise are beneficial and which exercises to perform and preparing a plan with the patient for review in 6 to 12 months.	NICE
018	4.4	Royal College of Nursing	Non-pharmacological management: Exercise & Manual Therapy	Access to affordable swimming/ exercise activities that encourage those with mild functional impairment to maintain their activities/improve function	Sustain mobility, encourage positive coping styles and self-management approaches. Works for healthy lifestyle too	http://www.nice.org.uk/guidance/CG177/chapter/introduction
019	4.4	SCM3	Core treatment	The NIHR funded MOSAICS trial (Managing Osteoarthritis in	If an adult 45 years and over with peripheral joint pain presents to primary care with a	http://www.keele.ac.uk/media/keeleuniversity/ri/primarycare/pdfs/OA

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				Consultations) investigating a model consultation as a way of increasing the uptake of NICE guidelines has highlighted that core treatments are important for quality care for OA. With the increase in the ageing population and increase in risk factors for poorer health such as obesity and reduced physical activity, musculoskeletal conditions such as osteoarthritis will be the main cause of physical disability in older adults. Health Care Professionals often feel that there's nothing that can be offered. In the UK osteoarthritis is primarily managed in primary care and there is evidence that older adults with osteoarthritis are more likely to receive pharmacological treatments than non-pharmacological	working diagnosis of osteoarthritis then core treatment should be offered because it is clinically and cost effective. There is also evidence that having joint pain reduces physical activity. Exercise, physical activity and weight loss are complex interventions requiring behaviour change and there is large variation in practice in offering such treatments.	_Guidebook.pdf In press: Edwards JJ et al Quality of Care for Osteoarthritis: the effect of a point-of-care consultation recording template Rheumatology Morden A, Jinks C, Ong BN. '...I've found once the weight had gone off, i've had a few twinges, but nothing like before'. Exploring weight and self-management of knee pain. Musculoskeletal Care. 2014 Jun;12(2):63-73. doi: 10.1002/msc.1054. Epub 2013 Jul 17. PubMed PMID: 23861332. Porcheret M, Main C, Croft P, McKinley R, Hassell A, Dziedzic K. Development of a behaviour change intervention: a case study on the practical application of theory. Implement Sci. 2014 Apr 3;9(1):42. doi: 10.1186/1748-5908-9-42. PubMed PMID: 24708880; PubMed Central PMCID: PMC3983864. Ong BN, Morden A, Brooks L,

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				treatments for their joint pain from their general practitioner. For example, while therapeutic exercise is an effective pain reliever in older adults with joint pain in older age individuals are more likely to be offered analgesics than exercise and poly-pharmacy with multimorbidity is an increasing concern. Traditionally the use of non-pharmacological approaches such as therapeutic exercise has been considered the domain of allied health professionals. This has been in part due to the complex nature of these interventions and the limited time available in general practice consultations in address them. Physiotherapists are the professional group recognized for their expertise in delivering therapeutic exercise. The		Porcheret M, Edwards JJ, Sanders T, Jinks C, Dziedzic K. Changing policy and practice: making sense of national guidelines for osteoarthritis. Soc Sci Med. 2014 Apr;106:101-9. doi: 10.1016/j.socscimed.2014.01.036. Epub 2014 Jan 30. PubMed PMID: 24556289. Edwards JJ, Khanna M, Jordan KP, Jordan JL, Bedson J, Dziedzic KS. Quality indicators for the primary care of osteoarthritis: a systematic review. Ann Rheum Dis. 2013 Nov 27. doi: 10.1136/annrheumdis-2013-203913. [Epub ahead of print] PubMed PMID: 24288012. Dziedzic K, Nicholls E, Hill S, Hammond A, Handy J, Thomas E, Hay E. Self-management approaches for osteoarthritis in the hand: a 2x2 factorial randomised trial. Ann Rheum Dis. 2013 Oct 9. doi:

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				extent to which non-pharmacological approaches could be delivered in general practice consultations has been overlooked. Over the past six years the Institute of Primary Care Sciences, Keele University has been undertaking an NIHR funded osteoarthritis programme to optimise the care and management for people presenting in primary care with joint pain who are at risk of osteoarthritis or who have osteoarthritis. It builds on the National Institute of Health and Care Excellence (NICE, 2008) recommendations for older adults with joint pain and osteoarthritis. This programme is now complete and will be published in 2015. The programme identified the importance of self-management and use of core NICE		10.1136/annrheumdis-2013-203938. [Epub ahead of print] PubMed PMID: 24107979. Uthman OA, van der Windt DA, Jordan JL, Dziedzic KS, Healey EL, Peat GM, Foster NE. Exercise for lower limb osteoarthritis: systematic review incorporating trial sequential analysis and network meta-analysis. BMJ. 2013 Sep 20;347:f5555. doi: 10.1136/bmj.f5555. Review. PubMed PMID: 24055922; PubMed Central PMCID: PMC3779121. Dziedzic KS, Healey EL, Main CJ. Implementing the NICE osteoarthritis guidelines in primary care: a role for practice nurses. Musculoskeletal Care. 2013 Mar;11(1):1-2. doi: 10.1002/msc.1040. PubMed PMID: 23457010. Porcheret M, Grime J, Main C, Dziedzic K. Developing a model osteoarthritis consultation: a Delphi consensus

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				recommendations in the management of osteoarthritis, the lack of confidence general practitioners have in delivering non-pharmacological treatments, that older adults are more likely to receive medication than lifestyle approaches to managing joint pain, that practice nurses lacked opportunity to integrate evidence based practice for osteoarthritis in their long-term condition management and also lacked confidence in delivering exercise advice. The NIHR OA programme identified four key innovations that increased the uptake of quality indicators of primary care for osteoarthritis: 1. An osteoarthritis guidebook written by patients and health professionals for patients		exercise. BMC Musculoskelet Disord. 2013 Jan 16;14:25. doi: 10.1186/1471-2474-14-25. PubMed PMID: 23320630; PubMed Central PMCID: PMC3560189. Dziedzic KS, Hill JC, Porcheret M, Croft PR. New models for primary care are needed for osteoarthritis. Phys Ther. 2009 Dec;89(12):1371-8. doi: 10.2522/ptj.20090003. Epub 2009 Oct 22. PubMed PMID: 19850712. Østerås N, Garratt A, Grotle M, Natvig B, Kjeken I, Kvien TK, Hagen KB. Patient-reported quality of care for osteoarthritis: development and testing of the osteoarthritis quality indicator questionnaire. Arthritis Care Res (Hoboken). 2013 Jul;65(7):1043-51. doi: 10.1002/acr.21976. PubMed PMID: 23401461. Moe RH, Petersson IF, Carmona L, Greiff R, Guillemin F, Udrea G,

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				2. A model osteoarthritis consultation for primary care 3. Training for general practitioners and practice nurses to deliver the model consultation 4. The development of quality indicators of osteoarthritis care. The core non-pharmacological approaches were: access to written information and advice; support for self-management; and advice on exercise and physical activity. The NIHR OA programme demonstrated that non-pharmacological approaches could be delivered in general practice consultations and patients felt that these approaches enhanced their OA consultation. GPs and practice nurses reported greater confidence in managing OA and patients feeling		Loza E, Stoffer MA, de Wit M, Wiek D, Vliet Vlieland T, Woolf AD, Uhlig T; EUMUSC.NET working group. Facilitators to implement standards of care for rheumatoid arthritis and osteoarthritis: the EUMUSC.NET project. Ann Rheum Dis. 2014 Aug;73(8):1545-8. doi: 10.1136/annrheumdis-2013-204980. Epub 2014 Mar 18. PubMed PMID: 24641942. Strömbeck B, Petersson IF, Vliet Vlieland TP; EUMUSC.net WP6 group. Health care quality indicators on the management of rheumatoid arthritis and osteoarthritis: a literature review. Rheumatology (Oxford). 2013 Feb;52(2):382-90. doi: 10.1093/rheumatology/kes266. Epub 2012 Oct 19. Review. PubMed PMID: 23086518.

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				that their joint problems were taken seriously. In addition, the health professionals realised that the core management principles for OA are the same as those for other long-term conditions (LTCs) and that the knowledge and skills they developed were transferable across a range of LTCs.		
020	4.4	SCM5	Key area for quality improvement 2 Diet & Exercise – Combined treatment plan	There is good evidence highlighting that patients who adopt a 'diet plus exercise' regime tend to have less pain and better knee function. Both diet and exercise are recommended within NICE guidelines as being beneficial for OA sufferers to adhere to – however, the study by Messier et al., (2013) discussed in CJSM (2014) reiterates those points and identifies that over an 18month period,	Clinical Audit, Arthritis Research UK informs that obesity can lead to OA. This study (by Messier et al., (2013) discussed in CJSM (2014)) addresses obese/over-weight individuals with knee OA, and thus demonstrates that achieving sustained weight loss and exercise, contributes effectively to reducing joint loading and inflammation of the knee. The key factor with regards to this, would be creating ways to	Title: 'The Contributions of Diet and Exercise to Improving Knee Osteoarthritis in Overweight Adults' Source: Clinical Journal of Sport Medicine Issue: Volume 24(2), March 2014, p 158–159 Author: Hart, Lawrence MB BCh, MSc "Repetitive exercises/activities pumps synovial fluid into cartilage, keeping cartilage healthy…When you move a joint,

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				greater improvements are noted in the inflammatory markers, when diet and exercise is combined more than either diet, or exercise alone.	encourage adherence to both; the question within the study is would this continue to be sustainable following the 18 month treatment plan? And would this still provide the same results if the patients weren't so rigorously monitored. (Again a key contender; compliance). September 20th 2013 BMJ (cited in Harvard Health Letter) researchers concluded: Strengthening and flexibility exercises completed on land/water significantly reduces pain and also improves physical function.	you build up a synovial fluid layer, reducing friction" Dr Reilly, Assistant Clinical Professor of Ortho Surgery at Harvard Medical School. Title: Effective relief for hip and knee arthritis pain. Source: Harvard Health Letter (HARV HEALTH LETT), 2014 Jan; 39 (3): 8.
021	4.4	SCM4	Key area for quality improvement 5 Referral to specialist services e.g. physiotherapy, surgery etc.	Long waiting times are evident for these referrals. People living with the discomfort of long term pain often arrive at the surgery as a last resort having put this off for some time. In many areas there are long waiting times for primary care	An integration of care across all disciplines and services, at all levels to enable people living with osteoarthritis to access appropriate care and treatments as part of their planned pathway. The bringing down of artificial and bureaucratic barriers to this should be a key quality improvement priority.	NJR Annual report 2014 http://www.njrcentre.org.uk/njrcentre/Portals/0/Documents/England/Reports/10th_annual_report/NJR%2010th%20Annual%20Report%202013%20B.pdf Chartered Society of Physiotherapy -2014 http://www.csp.org.uk/news/2014/

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				appointments. In addition post operative referrals	It is well documented that the use of appropriate activity and exercise can greatly enhance person's mobility, pain control and quality of life. Delay the need for joint replacements. Some people can do this for themselves but other need to be taught exercises either one to one or in groups. There is a lack of physiotherapy services and practitioners in the UK, yet a huge need? Where there is a need for referral to surgery for example then this should be actioned quickly so that the person has better access to assessment for surgery and also post op rehabilitation services. A total of 86,488 hip procedures were recorded on the NJR in 2012 which represented a 7.5% increase from the previous year. In 2012, 90,842 knee replacement procedures were entered into the NJR representing an increase of 7.3% compared to 2011	07/25/musculoskeletal-conditions-urgent-need-shift-treatment-prevention NICE OA Guidance 2014 http://www.nice.org.uk/guidance/CG177/chapter/1-Recommendations Osteoarthritis in general practice, Arthritis Research UK 2013 file:///C:/Users/Penny/Downloads/Osteoarthritis%20in%20general%20practice%20%20July%202013%20%20Arthritis%20Research%20UK%20PDF%20421%20MB.pdf OA Nation 2012, Arthritis Care http://www.arthritiscare.org.uk/LivingwithArthritis/oanation-2012/registration/f_form_acknowledge_msc_e ARMA Standards of Care for Osteoarthritis 2004: http://arma.uk.net/wp-content/uploads/pdfs/oa06.pdf

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022	4.4	Arthritis Care	Weight management	Weight management should be a first line management approach for obese patient with OA.	Obese patients have a poor outcome from joint replacement therapy compared to less than 10% of those with a healthy weight. Weight loss and exercise combined have been shown to achieve the same level of symptom relief for osteoarthritis as joint replacement surgery. GPs should be prompted to assess whether patients should be referred to exercise programmes tailored to their mobility and co-morbidities.	McElroy, MJ 'The effects of obesity and morbid obesity on outcomes in TKA. Journal of Knee Surgery 26 (2) 83-88 H. Bliddal, et al 'Osteoarthritis, obesity and weight loss: evidence, hypotheses and horizons. Obesity Reviews. 2014.
023	4.4	Dieticians in Obesity Management UK (domUK)	Key area for quality improvement 2 Healthy weight management in those with diagnosed osteoarthritis	Osteoarthritis affects the mobility of joints, and pain and inflammation makes movement difficult. Reduced mobility and weight gain are more likely in those with osteoarthritis, adding to weight management difficulties in those who were already overweight. Lower socioeconomic groups are at greater risk of obesity,	Weight gain is likely to exacerbate stress on joints and reduce mobility further. Low levels of physical activity and high prevalence of overweight and obesity are already recognised as national health concerns. Offering access to evidence-based weight management programmes offered by qualified trained personnel should be a key component of management of	Health Survey for England data on prevalence of overweight and obesity in adults and low levels of physical activity in children and adults. NOO (National Obesity Observatory) website: http://www.noo.org.uk/ HOOP (Helping Overcome Obesity Problems) report 'Tackling obesity: all talk, no action'. Available from:

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				and lack of availability of evidence-based weight management programmes may therefore have a disproportionate impact on these groups.	osteoarthritis in those who are already overweight or obese at diagnosis, or whose weight increases. Weight management programmes should be based upon behaviour change, diet and physical activity. Use of Low Calorie Liquid Diets has been shown to be effective in achieving significant sustained weight loss in individuals with osteoarthritis. Weight Loss Maintenance is essential when advising on evidence based weight management plans with at least 12month outcomes.	http://www.hoopuk.org.uk/ Improved nutritional status and bone health after diet-induced weight loss in sedentary osteoarthritis patients: a prospective cohort study P Christensen1,2, EM Bartels1, BF Riecke1, H Bliddal1, AR Leeds2,3, A Astrup2, K Winther4 and R Christensen1, European Journal of Clinical Nutrition (2011) 1—6 Comparison of three different weight maintenance programs on cardiovascular risk, bone and vitamins in sedentary older adults Pia Christensen1,2, Rikke Frederiksen1, Henning Bliddal, Birgit F Riecke1, Else M Bartels1, Marius Henriksen1, Tina Juul-Sørensen1,4, Henrik Gudbergsen1, Kaj Winther3, Arne Astrup 2, Robin Christensen1, Obesity

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						Volume 21, Issue 10, pages 1982–1990, October 2013
024	4.4	SCM1	Key area for quality improvement 4 Being proactive with regards to weight loss in patients with OA	Roughly 25 % of adults in the UK are obese and this figure appears to be on the rise. There is good evidence that weight loss in osteoarthritis has a significant and positive effect on pain, which is why it is a core treatment in the NICE OA guidelines. Arthritis Care's OA Nation report suggests that patients are aware of this (75%) but only a minority (half of these) do try to lose weight. See also NICE PH 53.	Arthritis Care's OA Nation report suggests that patients are aware of the importance of weight loss but only a minority actually try to lose weight, which is a safe and effective treatment for OA pain. It has been identified in NICE PH 53 that medical staff involved in the care of people with obesity need to be more proactive in discussing and managing this condition and this is particularly pertinent to patients with OA.	Arthritis Care. OA Nation 2012. Available at: http://www.arthritiscare.org.uk/LivingwithArthritis/oanation-2012 (accessed on 11/11/13)
025	4.4	Primary Care Rheumatology Society	Key area for quality improvement 3	Weight reduction is a core treatment for osteoarthritis. Weight management can help improve both pain and function in osteoarthritis. There is very specific advice that can be given to patients with joint pain about weight management which can provide insight and an	Preparing a plan with the patient about weight loss and planning a review at 6 to 12 months to assess progress against the plan.	NICE

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				additional incentive to lose weight and reduce chronic pain.		
026	4.4	British Association of Prosthetists and Orthotists (BAPO)	Key area 1: Referral to orthotic services for non-surgical management of the OA knee and hip	Appropriate conservative management may prevent or delay surgical intervention. An Osteoarthritis Research Society International (OARSI) guideline stated that optimal management of this patient group requires both pharmacological and non-pharmacological treatment modalities. Non-pharmacological modalities included joint unloading, knee braces, and footwear advice and insole provision. All of these can be considered biomechanical interventions. Recommendation by another recent OARSI guideline stated that biomechanical interventions for (knee) OA	The British Association of Prosthetists and Orthotists (BAPO) advocate that it is the role of the Orthotist to assess for and provide orthoses; this is stated in the BAPO Standards for Best Practice and is also reflected by the HCPC Standard of Proficiency and the Podiatry Rheumatic Care Association Standard for Care for People with MSK Foot Health Problems. Thus a referral to orthotic services should be made when biomechanical interventions are to be considered. BAPO acknowledges that current referral pathways differ throughout the UK and therefore orthotic services may not be utilised to their full potential. We are aware that several professionals currently dispense orthoses, often under instruction of manufacturers. Orthotists are equipped with the knowledge	http://www.oarsi.org/sites/default/files/docs/2014/non_surgical_treatment_of_knee_oa_march_2014.pdf http://www.sciencedirect.com/science/article/pii/S1063458407003974 http://www.hkscpo.org/10download/York_Report_Orthotic_Service_in_the%20NHS.pdf http://www.hpc-uk.org/assets/documents/10000522Standards_of_Proficiency_Prosthetists_and_Orthotists.pdf https://www.bapo.com/Framework/ResourceManagement/GetResourceObject.aspx?ResourceID=7a367742-a95e-4b64-8b14-57e65d088e00 http://www.prcassoc.org.uk/files/F

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				are to be directed by an appropriate specialist. Orthotists are best placed to determine the appropriate biomechanical intervention as they are the only profession with competency to provide any type of custom or pre-fabricated orthotic device for managing OA.	required to differentiate between the many commercially available types to choose an optimum design, manufacture a specific type or customise an existing device. An orthotic assessment will optimise design and review will ensure best compliance which is always the challenge with orthotic intervention. The York Health Economic Consortium report 'Orthotic Service in the NHS: Improving Service Provision' demonstrated that orthotic services could provide clear cost savings for patients with chronic health conditions such as arthritis through delay of more expensive/complex treatments and reduced requirement for social care through improved mobility and independence.	ull%20Colour%20Foot%20Health%20Standards.pdf
027	4.4	The Robert Jones and Agnes Hunt Orthopaedic Hospital NHS Foundation	Key area for quality improvement 1	Doctors should understand the natural history of osteoarthritis to provide appropriate advice to patients which usually requires advice, alteration	There is evidence of inappropriate advice for patients that the condition is treatable by surgical procedures which are ineffective such as "tidying up the joint" by arthroscopy. There	Please see: 1. NICE Interventional Procedure Guidance "Arthroscopic knee washout, with or without debridement, for the

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		Trust		of lifestyle, weight reduction by diet, appropriate exercise activity, and sparing use of analgesic and/or anti-inflammatory medication. Keyhole surgery, debridement, partial meniscectomy, smoothing of the joint etc, usually involves removing more cushioning in the joint and this risks accelerating the arthritis. There are also risks of complications. Money spent on these procedures diverts resources from more worthwhile health interventions.	are some situations when this is appropriate when there are mechanical symptoms, which almost always means true locking. However, in the main, patients are better off with conservative treatment until such time that joint replacement is required.	treatment of osteoarthritis" [IPG230]. http://www.nice.org.uk/guidance/IPG230 [accessed 7 August 2014] 2. Bruce Moseley, J., O'Malley, K., Peterson, N.J., Menke, T.J., Brody, B.A., Kuykendall, D.H. et al. A controlled trial of arthroscopic surgery for osteoarthritis of the knee. New England Journal of Medicine. 2002, 347 (2), pp.81-8. http://www.nejm.org/doi/full/10.1056/NEJMoa013259 [accessed 7 August 2014] 3. Donell, S. Arthroscopy in the management of knee osteoarthritis. The Knee. 2014, 21 (2), pp.351-2. http://dx.doi.org/10.1016/j.knee.2014.02.013 [accessed 7 August 2014] Bennell, K.L., Hunter, D.J., Hinman, R.S. Management of

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						osteoarthritis of the knee. BMJ. 2012, 345, p.e4934. http://www.bmj.com/content/345/bmj.e4934 [accessed 7 August 2014]

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028	4.4	SCM2	2. Do not refer for arthroscopic lavage and debridement as part of treatment for osteoarthritis, unless the person has knee osteoarthritis with a clear history of mechanical locking	Arthroscopic lavage and debridement in knee OA, in the absence of true mechanical locking, is a procedure with considerable morbidity (general anaesthetic) and a large placebo effect. The true clinical effectiveness of the procedure has not been established. (CG 177). The resources spent on such procedures could be used for more effective interventions.	The NHS atlas of variation and the latest Secondary Uses Statistics (SUS data) show that there are still some hospitals providing a four-fold higher intervention rate. This represents an unwarranted variation.	http://www.rightcare.nhs.uk/index.php/nhs-atlas/ http://www.hscic.gov.uk/hes
029	4.5	Arthritis Care	Pain Management	Pain is one of the most distressing symptoms of arthritis as reported by people with the illness.	In the Arthritis Hurts study published by our charity a greater number of patients with osteoarthritis reported pain being a frequent feature of their illness than was the case with rheumatoid arthritis. 70% of first time callers to the Arthritis Care telephone helpline inquire about pain symptoms.	No additional information provided by stakeholder.
030	4.5	Grünenthal Ltd	People with osteoarthritis receive effective analgesia to reduce	Reducing chronic pain to levels equivalent to 'no worse than mild pain' carries significant health	The strength of the evidence is such as to indicate that any patient-centred treatment programme that does not	Moore R.A, Straube S, Aldington D. Pain measures and cut-offs – no worse than mild pain as a simple, universal outcome.

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			symptom severity to no worse than mild pain	and economic benefits to patients. Improved sleep, reduced depression, better quality of life and greater ability to function and work come with good pain relief; without pain relief, there were no improvements in these outcomes.	include the achievement of adequate pain relief as part of its goals is likely to fail to deliver on expected benefits.	Anaesthesia. 2013; 68: 400 – 412.
031	4.5	Napp Pharmaceuticals Limited	Key area for quality improvement 1	Effective pain management of OA patients is often a factor key in allowing patients to maintain a good quality of life. Pain management is highly variable and poorly managed. With 8.5million OA patients in the UK and 71% of these in constant pain, it is therefore imperative that good pain management should be encouraged to avoid the variability experienced by patients across the UK. 1 in 8 patients state that the pain is unbearable. The key areas for improvement are: • taking a good	Good pain management means that people can maintain a good quality of life, stay in employment, avoid surgery, complete courses of physiotherapy, maintain mobility and play an active part in society. Pain management is highly variable and evidence shows that insufficient time is spent on educating health care professionals. There are insufficient pain specialists and pain clinics in the UK for the number of referrals for moderate to severe musculoskeletal pain and patients a not always aware of the availability of specialist pain services. This is increasingly a problem with an	1. NICE Quality Standard QS15 states that Patients have their physical and psychological needs regularly assessed and addressed, including nutrition, hydration, pain relief, personal hygiene and anxiety. 2. OANation report 2012 http://www.arthritiscare.org.uk/LivingwithArthritis/oanation-2012 3. Guidance on the recognition, assessment, and management of pain in people who have dementia. Rasmusen et al

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				patient history, • monitoring and recording pain scores as part of the patient's management, • assessing function, • appropriate choice of analgesic • consider co-morbidities e.g. dementia • follow-up and reassessment • appropriate referral to specialists • ongoing pain education of health care professionals	ageing population, the increase in obesity and patients with co-morbidities such as dementia. Better knowledge of the treatment options and the problems associated with lack of pain control which could include issues such as: • lack of response to preparations containing codeine due its metabolism by the CYP2D6 enzyme. • constipation caused by opioids and how to appropriately manage this avoidable complication • consideration should be given to tailoring the administration and formulation of the analgesic to the patient's life-style, e.g. patches, modified release tablets, topical formulations, oro-dispersible, etc. • Consider co-morbidities and choice of analgesic	Guidelines MGP Volume 53 June 2014. www.eguidelines.co.uk

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					e.g. dementia	

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032	4.5	Royal College of Nursing	Early Pain Intervention	Health Professionals with competencies to guide those presenting with joint pain on basic principles of joint protection, pain management and self-management approaches	Early intervention can improve long term outcomes/patients perspective that 'there is nothing to be done' and wait only hoping for the final result – a joint replacement. They need to maintain functional ability and exercise tolerance – prevent other health problems, e.g. obesity and depression due to limitations in function. Active pain relieve can give the patient an increased quality of life. There is also evidence that early pain interventions can prevent rapid deterioration.	http://www.nice.org.uk/guidance/CG177/chapter/introduction (Also see pain audit final report)
033	4.5	SCM4	Key area for quality improvement 3 Medication – pain and symptom control	There is growing concern amongst people living with OA that many of the treatments previously though safe and effective are being proved to be less so and there are growing doubts and unease about this. Especially as there is no clear consensus of opinion or prescribing protocol amongst the medical community. Rather there seems to be discord and	In order that people living with OA have confidence in their [prescribed] medication and their health practitioner it is essential that good clear guidance is available at all levels. Optimum and safe pain and symptom control is important for those who cannot achieve the benefits from exercise e.g. those who are experiencing severe joint damage or the oldest old or for those whose co-morbidities and associated treatments restrict their treatment options. At times	NICE OA Guidance 2014 http://www.nice.org.uk/guidance/CG177/chapter/1-Recommendations Osteoarthritis in general practice, Arthritis Research UK 2013 file:///C:/Users/Penny/Downloads/Osteoarthritis%20in%20general%20practice%20%20July%202013%20%20Arthritis%20Research%20UK%20PDF%20421%20MB.pdf

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				dissention. There is a need for research and development in the area of pain and control of symptoms such as stiffness, swelling and inflammation. Clear guidance is not yet available or accessible to the person living with OA with regard to analgesia or NSAIDs.	all people living with OA need and can benefit from good analgesic interventions so they can continue living a healthy, active and fulfilling life. This is vital for those in the working age group who often need such interventions to help them manage their work, family and social lives. While there are few to virtually zero pipelines of research or the prospect of new effective medication available then good and appropriate use of the existing options needs to be promoted. Including alternatives to medication. This would mean more involvement and education of the person living with OA in the process thus leading to a partnership and informed choices.	OA Nation 2012, Arthritis Care http://www.arthritiscare.org.uk/LivingwithArthritis/oanation-2012/registration/f_form_acknowledge_msc_e ARMA Standards of Care for Osteoarthritis 2004: http://arma.uk.net/wp-content/uploads/pdfs/oa06.pdf
034	4.5	SCM5	Key area for quality improvement 1 Pain Management – treatment/techniques of management to be addressed by	Previous evidence suggests the importance of having a 'key worker/personnel'; likelihood of this to be who	This was originally addressed in 1996; Standards for PT working in pain management – this was due for review in 1999; but no evidence to suggest this	National Pain Audit, November 2011 http://www.nationalpainaudit.org/media/files/National_Pain_Audit_

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			therapy	works most closely with the patient – i.e. Therapy (whether PT or OT) – pain means a decline in active participation in therapy/rehabilitation. If therapists were encouraged to train within the realms of working effectively with chronic pain, patients may be more inclined to continue with rehabilitation; increase motivational levels. Outpatient PT care is not the same; time limited, and in an environment that is out of context for the patient.	occurred. National Audit for Pain, suggests that this would be worth exploring/researching, but based on accepted guidelines and to make the therapist competent. The pain that is experienced re: chronic pain, (not amenable to pain relief familiar with GP), GPs are considered as not being experienced with; this pain can be mentally and physically disabling for the patient. Any therapist knows that one of the key contenders for reducing progression of OA, is pain; an individual is in pain, less likely to participate in therapy, or progress with therapy. Therefore, having access to clinics and education.	Report_December_2011.pdf
035	4.5	SCM3	Use of Topical NSAIDs	Polypharmacy has been recognised as an undesirable consequence of a biomedical approach for the management of multimorbidity and long term conditions. People with OA consult for pain relief and in older adults	If an adult 45 years and over with peripheral joint pain presents to primary care with a working diagnosis of osteoarthritis then Topical NSAIDs should be offered as a front line analgesia. The NIHR funded MOSAICS trial (Managing Osteoarthritis in	In press: Edwards JJ et al Quality of Care for Osteoarthritis: the effect of a point-of-care consultation recording template Rheumatology Edwards JJ, Khanna M, Jordan KP, Jordan JL, Bedson J,

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				they are more likely to be offered medicines than non-pharmacological therapy. Treatment should combine pharmacological and non-pharmacological therapies. As polypharmacy is a concern in those with multimorbidity Topical NSAIDS could be considered as a first line analgesia with limited side effects compared with oral analgesia.	Consultations) investigating the effect of a point-of-care consultation recording template has demonstrated increase uptake of Topical NSAIDs with the use of consultation screen prompts.	Dziedzic KS. Quality indicators for the primary care of osteoarthritis: a systematic review. Ann Rheum Dis. 2013 Nov 27. doi: 10.1136/annrheumdis-2013-203913. [Epub ahead of print] PubMed PMID: 24288012. Porcheret M, Grime J, Main C, Dziedzic K. Developing a model osteoarthritis consultation: a Delphi consensus exercise. BMC Musculoskelet Disord. 2013 Jan 16;14:25. doi: 10.1186/1471-2474-14-25. PubMed PMID: 23320630; PubMed Central PMCID: PMC3560189.
036	4.6	SCM3	Referral to surgery should be considered after core treatment has been tried	The NIHR funded MOSAICS trial (Managing Osteoarthritis in Consultations) investigating a model consultation as a way of increasing the uptake of NICE guidelines has highlighted that core treatments are important	If an adult 45 years and over with peripheral joint pain presents to primary care with a working diagnosis of osteoarthritis then core treatment should be offered before referral to surgery because exercise is a clinically and cost effective pain relieving treatment. Exercise, physical	http://www.keele.ac.uk/media/keeleuniversity/ri/primarycare/pdfs/OA_Guidebook.pdf In press: Edwards JJ et al Quality of Care for Osteoarthritis: the effect of a point-of-care consultation recording template Rheumatology Croft P, Porcheret M, Peat G.

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				for quality care for OA. It has also identified that there is a large variation in practice. Health Care Professionals and patients often feel that there is little on offer in consultations for OA and that surgery is the only option. Written information and core treatment may not have been offered before referral to surgery.	activity and weight loss are complex interventions requiring behaviour change and there is large variation in practice in offering such treatments, never-the-less they should be considered before surgery. Implementation of NICE recommendations could reduce visits to the orthopaedic surgeon and reduce costs. NHS in Shropshire identified that the outputs from MOSAICS (e.g. training, template, OA guidebook) were useful resources to be put into practice to support the management of an appropriate clinical pathway for OA/-pre orthopaedic patients.	Managing osteoarthritis in primary care: the GP as public health physician and surgical gatekeeper. Br J Gen Pract. 2011 Aug;61(589):485-6. doi: 10.3399/bjgp11X588231. PubMed PMID: 21801544; PubMed Central PMCID: PMC3145500. Porcheret M, Jordan K, Jinks C, Croft P; Primary Care Rheumatology Society. Primary care treatment of knee pain--a survey in older adults. Rheumatology (Oxford). 2007 Nov;46(11):1694-700. Epub 2007 Oct 15. PubMed PMID: 17938135. Porcheret M, Jordan K, Croft P; Primary Care Rhumatology Society. Treatment of knee pain in older adults in primary care: development of an evidence-based model of care. Rheumatology (Oxford). 2007 Apr;46(4):638-48. Epub 2006 Oct 24. Review. PubMed PMID: 17062646.

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						Paskins Z, Sanders T, Hassell AB. What influences patients with osteoarthritis to consult their GP about their symptoms? A narrative review. BMC Fam Pract. 2013 Dec 20;14:195. doi: 10.1186/1471-2296-14-195. Review. PubMed PMID: 24359101; PubMed Central PMCID: PMC3890599. Porcheret M, Main C, Croft P, McKinley R, Hassell A, Dziedzic K. Development of a behaviour change intervention: a case study on the practical application of theory. Implement Sci. 2014 Apr 3;9(1):42. doi: 10.1186/1748-5908-9-42. PubMed PMID: 24708880; PubMed Central PMCID: PMC3983864. Ong BN, Morden A, Brooks L, Porcheret M, Edwards JJ, Sanders T, Jinks C, Dziedzic K. Changing policy and practice: making sense of national guidelines for

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						osteoarthritis. Soc Sci Med. 2014 Apr;106:101-9. doi: 10.1016/j.socscimed.2014.01.036. Epub 2014 Jan 30. PubMed PMID: 24556289. Edwards JJ, Khanna M, Jordan KP, Jordan JL, Bedson J, Dziedzic KS. Quality indicators for the primary care of osteoarthritis: a systematic review. Ann Rheum Dis. 2013 Nov 27. doi: 10.1136/annrheumdis-2013-203913. [Epub ahead of print] PubMed PMID: 24288012. Uthman OA, van der Windt DA, Jordan JL, Dziedzic KS, Healey EL, Peat GM, Foster NE. Exercise for lower limb osteoarthritis: systematic review incorporating trial sequential analysis and network meta-analysis. BMJ. 2013 Sep 20;347:f5555. doi: 10.1136/bmj.f5555. Review. PubMed PMID: 24055922; PubMed Central PMCID: PMC3779121.

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037	4.6	SCM1	Key area for quality improvement 3 Removing barriers for referral for consideration of joint replacement surgery and having standardised pre-rehabilitation programmes	NICE CG177 states that scoring tools should not be used in determining who should/should not be referred for joint replacement surgery. A patient's BMI should also not be a barrier to referral as evidence from the National Joint Registry shows that overweight and obese patients do just as well as patients who are a normal weight. Patients who are optimally prepared for their operation seem to do better post op also.	Variability still seems to exist amongst the different CCGs in England and Wales as to who can be referred for joint replacement surgery.	National Joint Registry 10th Annual Report (2013). www.njrcentre.org.uk
038	4.6	SCM2	3. Referral for consideration of joint surgery (timing and criteria)	Surgery is one of the most cost effective interventions for people with OA, who have a suitable 'target' for surgery. (CG 177)	There is considerable variation in both the access criteria for surgery (e.g. CG 177 advises not using scoring tools or excluding patients with obesity or comorbidities). However, most CCGs have implemented some form of rationing of access. In some cases, these access criteria directly conflict with NICE advice. (e.g. NW	http://www.northwestlondon.nhs.uk/publications/?category=6084-PPWT%2FIFR-d http://www.rightcare.nhs.uk/index.php/nhs-atlas/

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					London Planned Procedures with Threshold – affecting 2 million population).	
039	4.6	British Orthopaedic Association	Referral thresholds for surgical treatment	Some CCGs restrict patients with moderate high BMI e.g.>30 for joint replacement surgery. There is no good evidence to support this approach. Whilst morbidly obese patients, BMI>40, have a higher risk of surgical complications, the results in THR and TKR show the same magnitude of improvement when compared with non-obese patients. We also believe the use of Oxford hip and knee scores are not appropriate for triaging patients for joint replacement surgery. We are aware of some CCGs who also restrict smokers from receiving surgical treatment and there is simply no evidence to support this.	The referral threshold for surgical treatment is greatly varied from one region to the next. NICE should set standards to make sure commissioning is uniform and we do not have a postcode lottery in surgical treatment for osteoarthritis.	Referral thresholds for surgical treatment
040	4.7	Grünenthal Ltd	Symptomatic	Annual review is important	Guidelines on the management	Osteoarthritis: care and

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			people receiving treatment for osteoarthritis have a review at least annually	to ensure that all aspects of the disease are under control. It provides a regular opportunity to holistically assess the patient in terms of the current management of the disease, and any further support they may need in the future, in order to enable them to maximise their quality of life	of other long term conditions such as diabetes, cardiovascular disease and chronic obstructive pulmonary disease in the NHS already include the annual frequency of patient follow-up. In order to be consistent and equitable, people with OA should also be offered the opportunity for an annual review	management in adults. NICE clinical guideline 177 (2014).
041	4.7	Royal College of Nursing	Early intervention and regular review	To facilitate a pain free quality of life for the patient	Early intervention may mean the difference between a patient living a quality life or be subjected to depression and poor quality living.	http://www.nice.org.uk/guidance/CG177/chapter/introduction
042	4.7	SCM2	4. Follow up and review for people with symptomatic osteoarthritis	People with symptomatic OA benefit from discussion with a healthcare professional about the impact of their condition and support for self-management (CG 177) An annual review for people with troublesome pain due to OA, multiple joints affected more than	Regular follow up of people with osteoarthritis is not occurring. There are no QOF indicators for osteoarthritis, that might change the delivery of care in general practice. The detection of 'silent' iatrogenic disease (CKD, anaemia) can only be achieved with regular review. Exercise for patients with co-morbidities is important for both their OA and many co-morbid conditions such	See above, and: DOH 2001 National Service Framework: Medicines and Older People Guthrie 2012 BMJ Adapting clinical guidelines to take account of multimorbidity National Prescribing Centre 2008

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				one co-morbidity and those taking regular medication for OA. (CG 177)	as diabetes, obesity and cardiovascular disease. Medication reviews are important for detecting complications of treatment, particularly Chronic Kidney Disease (CKD) and anaemia (with oral NSAIDs/COX2 and paracetamol). (NICE CG177 and CG 73 (CKD))	A Guide to Medication Review NICE 2008 Chronic Kidney Disease CG73
043	4.7	SCM3	Patients should be offered an annual review for their osteoarthritis if they have more than one joint affected, co-morbidities, troublesome joint pain or taking medication for their joint pain	The NIHR funded MOSAICS trial (Managing Osteoarthritis in Consultations) investigating a model consultation as a way of increasing the uptake of NICE guidelines has highlighted that consultations for OA increase with increasing number of joint sites effected. Annual review has been recommended by NICE. Consensus shows that review of self-management plans, pain relief and analgesia are considered important by patients, GPs, allied health professionals and nurses.	In the UK osteoarthritis is primarily managed in primary care and there is evidence that older adults with osteoarthritis are more likely to receive pharmacological treatments than non-pharmacological treatments for their joint pain from their general practitioner. Older adults are more likely to have co-morbidities and take a large number of medications for different conditions. The adverse effects of polypharmacy warrant monitoring as well as the impact of core treatment and self-management.	In press: Edwards JJ et al Quality of Care for Osteoarthritis: the effect of a point-of-care consultation recording template Rheumatology http://www.keele.ac.uk/media/keeleuniversity/ri/primarycare/pdfs/OA_Guidebook.pdf Croft P, Porcheret M, Peat G. Managing osteoarthritis in primary care: the GP as public health physician and surgical gatekeeper. Br J Gen Pract. 2011 Aug;61(589):485-6. doi: 10.3399/bjgp11X588231. PubMed PMID: 21801544; PubMed Central PMCID: PMC3145500. Ong BN, Jinks C, Morden A. The

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				There are quality indicators in the literature for OA.		hard work of self-management: Living with chronic knee pain. Int J Qual Stud Health Well-being. 2011;6(3). doi: 10.3402/qhw.v6i3.7035. Epub 2011 Jul 11. PubMed PMID: 21760837; PubMed Central PMCID: PMC3136152. Paskins Z, Sanders T, Hassell AB. Comparison of patient experiences of the osteoarthritis consultation with GP attitudes and beliefs to OA: a narrative review. BMC Fam Pract. 2014 Mar 19;15:46. doi: 10.1186/1471-2296-15-46. PubMed PMID: 24641214; PubMed Central PMCID: PMC3995321. Paskins Z, Sanders T, Hassell AB. What influences patients with osteoarthritis to consult their GP about their symptoms? A narrative review. BMC Fam Pract. 2013 Dec 20;14:195. doi: 10.1186/1471-2296-14-195. Review. PubMed PMID:

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						24359101; PubMed Central PMCID: PMC3890599. Porcheret M, Main C, Croft P, McKinley R, Hassell A, Dziedzic K. Development of a behaviour change intervention: a case study on the practical application of theory. Implement Sci. 2014 Apr 3;9(1):42. doi: 10.1186/1748-5908-9-42. PubMed PMID: 24708880; PubMed Central PMCID: PMC3983864. Ong BN, Morden A, Brooks L, Porcheret M, Edwards JJ, Sanders T, Jinks C, Dziedzic K. Changing policy and practice: making sense of national guidelines for osteoarthritis. Soc Sci Med. 2014 Apr;106:101-9. doi: 10.1016/j.socscimed.2014.01.036. Epub 2014 Jan 30. PubMed PMID: 24556289. Edwards JJ, Khanna M, Jordan KP, Jordan JL, Bedson J, Dziedzic KS. Quality

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						Ann Rheum Dis. 2007 Mar;66(3):377-88. Epub 2006 Oct 17. PubMed PMID: 17046965; PubMed Central PMCID: PMC1856004. Østerås N, Garratt A, Grotle M, Natvig B, Kjeken I, Kvien TK, Hagen KB. Patient-reported quality of care for osteoarthritis: development and testing of the osteoarthritis quality indicator questionnaire. Arthritis Care Res (Hoboken). 2013 Jul;65(7):1043-51. doi: 10.1002/acr.21976. PubMed PMID: 23401461. Moe RH, Petersson IF, Carmona L, Greiff R, Guillemin F, Udrea G, Loza E, Stoffer MA, de Wit M, Wiek D, Vliet Vlieland T, Woolf AD, Uhlig T; EUMUSC.NET working group. Facilitators to implement standards of care for rheumatoid arthritis and osteoarthritis: the EUMUSC.NET project. Ann

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						Rheum Dis. 2014 Aug;73(8):1545-8. doi: 10.1136/annrheumdis-2013-204980. Epub 2014 Mar 18. PubMed PMID: 24641942. Strömbeck B, Petersson IF, Vliet Vlieland TP; EUMUSC.net WP6 group. Health care quality indicators on the management of rheumatoid arthritis and osteoarthritis: a literature review. Rheumatology (Oxford). 2013 Feb;52(2):382-90. doi: 10.1093/rheumatology/kes266. Epub 2012 Oct 19. Review. PubMed PMID: 23086518.
044	4.7	SCM4	Key area for quality improvement 1 Diagnosis and review - pathways	The diagnosis process should be considered as a flexible tool which encompasses regular review because of the complexities of OA. Increasing longevity resulting in an aging population means that people are experiencing	It is important that the individual is looked at holistically and the impact of any subsequent health changes in other areas is taken into account throughout. Each change in either new diagnosis or change in treatment should be reviewed in line with the person's joint disease.	NICE OA Guidance 2014 http://www.nice.org.uk/guidance/CG177/chapter/1-Recommendations Osteoarthritis in general practice, Arthritis Research UK 2013 file:///C:/Users/Penny/Downloads/Osteoarthritis%20in%20general%

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				more co morbidities and are subject to multiple treatment interventions. There is a concern amongst people living with OA that their condition is not taken seriously and that their overall health needs are not taken into account.	Maintaining healthy and active lifestyles are important to those living with OA. This is a lifetime chronic condition which can, if left without the right level of attention, can lead to a severe lack of mobility and increased pain levels. If people are not supported throughout each health change then this neglect will have impacts and consequences with regard to their OA and their ability to function in all aspects of their lives. In this specific area the medical community hold the key to supporting the individual through regular diagnostic review and agreed holistic health planning.	20practice%20%20July%202013%20%20Arthritis%20Research%20UK%20PDF%20421%20MB.pdf OA Nation 2012, Arthritis Care http://www.arthritiscare.org.uk/LivingwithArthritis/oanation-2012/registration/f_form_acknowledge_msc_e ARMA Standards of Care for Osteoarthritis 2004: http://arma.uk.net/wp-content/uploads/pdfs/oa06.pdf
045	4.7	British Orthopaedic Association	Setting quality standards on different modalities of conservative management. E.g physiotherapy, APOS therapy, acupuncture and other forms of complimentary	There is no uniform approach to treatment, with an obvious lack of quality assessment and no meaningful ways to find out whether treatment is effective or not. This can be costly if secondary intervention has to be commissioned or if primary management fails to	NICE should perhaps recommend some form of assessment tools and regular audit to provide a more robust and standardised approach to conservative treatment in osteoarthritis. (We note that the Chartered Society of Physiotherapy recommends using EQ5D as an assessment	Setting quality standards on different modalities of conservative management. E.g physiotherapy, APOS therapy, acupuncture and other forms of complimentary therapies.

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			therapies.	control patient's symptoms.	tool.)	
046	4.7	Grünenthal Ltd	People with osteoarthritis have their response to treatment, in terms of pain severity and impact on everyday activities and quality of life, recorded at each visit.	Regular monitoring of pharmacological and non-pharmacological treatment response ensures that the effectiveness and tolerability of treatment can be assessed and treatment adjusted as needed. It also provides an opportunity for healthcare professionals to monitor other outcomes including the long-term course of the condition.	Studies consistently demonstrate that symptom control is low amongst people with osteoarthritis accessing health care and receiving treatment. Consistent recording of clinical indicators of care are required to assist in the audit and quality improvement of this common and frequently disabling condition.	Sheikh L, Nicholl B.I, Green D.J et al. Osteoarthritis and the Rule of Halves. Osteoarthritis and Cartilage. 2014; 22: 535 – 539. March L, Amatya B, Osbourne R.H et al. Developing a minimum standard of care for treating people with osteoarthritis of the hip and knee. Best Practice & Research Clinical Rheumatology. 2010; 24: 121 – 145.
047	4.7	Royal College of Nursing	Continued research into osteoarthritis	Continued research is needed to try and find a cure for this disease	More data collection on outcome measures of early interventions and advice is needed.	See arthritis research UK
048	4.7	Biomet	The number and frequency of corticosteroids injections for OA should be routinely captured at both the GP and Specialist level.	In vitro corticosteroids can be chrondro toxic, yet there is a clear lack of clinical data on the long term safety of repeated steroid injections for OA.	The variability in corticosteroids use for OA offers no clear information on the long term safety, efficacy and risks of repeated OA injections.	[Effect of different concentrations of dexamethasone on apoptosis and expression of Fas/FasL in human osteoarthritis chondrocytes]. http://www.ncbi.nlm.nih.gov/pubmed/22702044 Local anaesthetics and chondrotoxicty: What is the

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						Evidence? Knee Surg Sports Traumatol Arthrosc (2012) 20:2294–2301 The chondrotoxicity of single-dose corticosteroids Knee Surg Sports Traumatol Arthrosc (2012) 20:1809–1814 Gluococorticoid could influence extracellular matrix synthesis through Sox9 via p38 MAPK pathway Rheumatol Int (2012) 32:3669–3673
049	4.8	Dieticians in Obesity Management UK (domUK)	Key area for quality improvement 1 Healthy weight management for prevention of osteoarthritis	Obesity and overweight are recognised risk factors for osteoarthritis. Excess body fatness places additional strain on muscles and joints which may lead to deterioration over time. Prevalence of overweight and obesity in both children and adults is a recognised concern nationally, and maintaining a healthy weight is	National data shows that in 2012, 24% of men and 25% of women were obese, with prevalence of overweight 42% and 32% respectively (HSE, 2013; obesity classed as BMI ≥30kg/m2 and overweight as BMI ≥25kg/m2). The National Child Measurement Programme (NCMP) data demonstrates that 22.2% of Reception aged	NOO (National Obesity Observatory) website: http://www.noo.org.uk/ NCMP (National Child Measurement Programme) website for annual reports on prevalence of overweight and obesity in England: http://www.hscic.gov.uk/ncmp OECD data on current and

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				considered a key national target.	children (4-5 years) and 33.3% of Year 6 children (aged 10-11 years) are overweight or obese (HSCIC, 2013). Despite years of campaigning and public health awareness, prevalence of unhealthy weight in the UK is still among the highest in Europe and predicted to increase further, with all the attendant health problems that this will bring.	projected prevalence of obesity in England compared with other countries (http://www.oecd.org/unitedkingdom/obesityandtheeconomicsofpreventionfitnotfat-unitedkingdomenglandkeyfacts.htm)
050	4.8	Primary Care Rheumatology Society	Key area for quality improvement 5 Additional developmental areas of emergent practice	The training of doctors both at undergraduate and postgraduate level includes little education on the assessment and conservative management of osteoarthritis including exercise, weight management and pain management. As GPs provide most musculoskeletal care in the NHS and osteoarthritis is the biggest burden of musculoskeletal disease, education in this area is essential to improve care.	Targeting evidence based education at GPs	NICE
051	4.8	SCM5	Key area for quality	Early stages of	Requiring more availability of	Title: “Stem cell-based therapies

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			improvement 3 Intra-articular stem cell injection to modify the progression of OA	investigation - proving to be successful to form new cartilage; preventing/delaying OA progression before and after extensive cartilage degradation	services; clinic base/research facilities; option to bring the start date forward or to make more widely available?	for osteoarthritis: challenges and opportunities" Source: Current Opinion in Rheumatology Issue: Volume 25(1), January 2013, p 119–126 Author: Diekman, Brian O.; Guilak, Farshid
052	4.8	HQT Diagnostics	Measure Vitamin D 25(OH)D and supplement to 80-100 nmol/L	People with OsteoArthritis are usually deficient in Vitamin D This shows as "bone pain" and reduced muscle strength Vitamin D with co-factors such as Magnesium, Calcium and Vitamin K helps re-build cartilage as well as bone	Bone quality - and re-mineralisation - is reduced when 25(OH)D is less than 75-80 nmol/L Increasing 25(OH)D above 75 nmol/L will usually lessen bone pain and make exercise easier by improving muscle strength This is a way to re-build cartilage as well as bone	www.vitamindwiki.com/Overview+Osteoarthritis+and+Vitamin+D www.vitamindwiki.com/Cadavers+with+good+skeletons+had+30+ng+of+vitamin+D+%E2%80%93+Feb+2010 www.biotechpharmacal.com/catalog/d3plus www.vitamindcouncil.org Book: The Vitamin D Solution By: Professor Michael F Holick
053	4.8	HQT Diagnostics	Measure Fatty Acids	A person with OsteoArthritis will usually	OsteoArthritis is usually accompanied by Inflammation in	See: www.expertomega3.com/omega-

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				have an imbalance in their Fatty Acids. This usually shows up as: Omega-3 Index – usually too low (Target >8%) Omega-6/3 Ratio – usually too high (Target <3:1) Trans fats – usually over 0.5% (Target , 0.4%) We suggest that a fatty acid test is done to measure these values and dietary advice is given (www.hqt-diagnostics.com) Options are: Increase consumption of fish high in Omega-3 Suggest a suitable course of Omega-3 Fish Oil with >2g Omega-3 per day Suggest reduce consumption of foods with	the joints Reducing the Omega-6/3 Ratio to <3:1 will usually improve the Inflammation. This reduces the pain and enables significantly better joint movement and more exercise	3-study.asp?id=2#2.3.1. www.hqt-diagnostics.com

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				Omega-6 Suggest reduce consumption of Trans fats		
054	4.8	British Association of Prosthetists and Orthotists (BAPO)	Key area 2: Requirement for a stronger evidence base for orthotic management of the OA knee, hip and shoulder.	Orthotic management of knee OA has been considered by many publications. A recent Osteoarthritis Research Society International (OARSI) guideline presented inconclusive evidence for the use of force braces and conflicting evidence for the use of wedged insole. Similar guidelines are proposed by the American Academy of Orthopaedic Surgeons. Literature such as The Cochrane Collaborative 'Braces and Orthoses for Treating Osteoarthritis of the Knee' states that the current methodological quality of studies investigating the effectiveness of bracing or orthoses has to be improved in order to	Furthering our understanding of orthotic devices and the role that they play in management of OA will enable improved prescription ensuring that provision leads to greater QOL for patients whilst also delivering cost-savings to the NHS. Where evidence remains unclear BAPO advocates that referral to orthotic services is of importance as the Orthotist remains best placed and most experienced discipline in assessment and prescription of biomechanical interventions.	http://www.oarsi.org/sites/default/files/docs/2014/non_surgical_treatment_of_knee_oa_march_2014.pdf http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004020.pub2/abstract http://www.aaos.org/Research/guidelines/TreatmentofOsteoarthritisoftheKneeGuideline.pdf

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				establish optimal prescriptions and determine long term implications of treatment. BAPO is currently aware that there is literature focussing orthotic on management of the hip and shoulder is lacking.		