

The Musculoskeletal Services Framework

A joint responsibility:
doing it differently

DH Information reader box

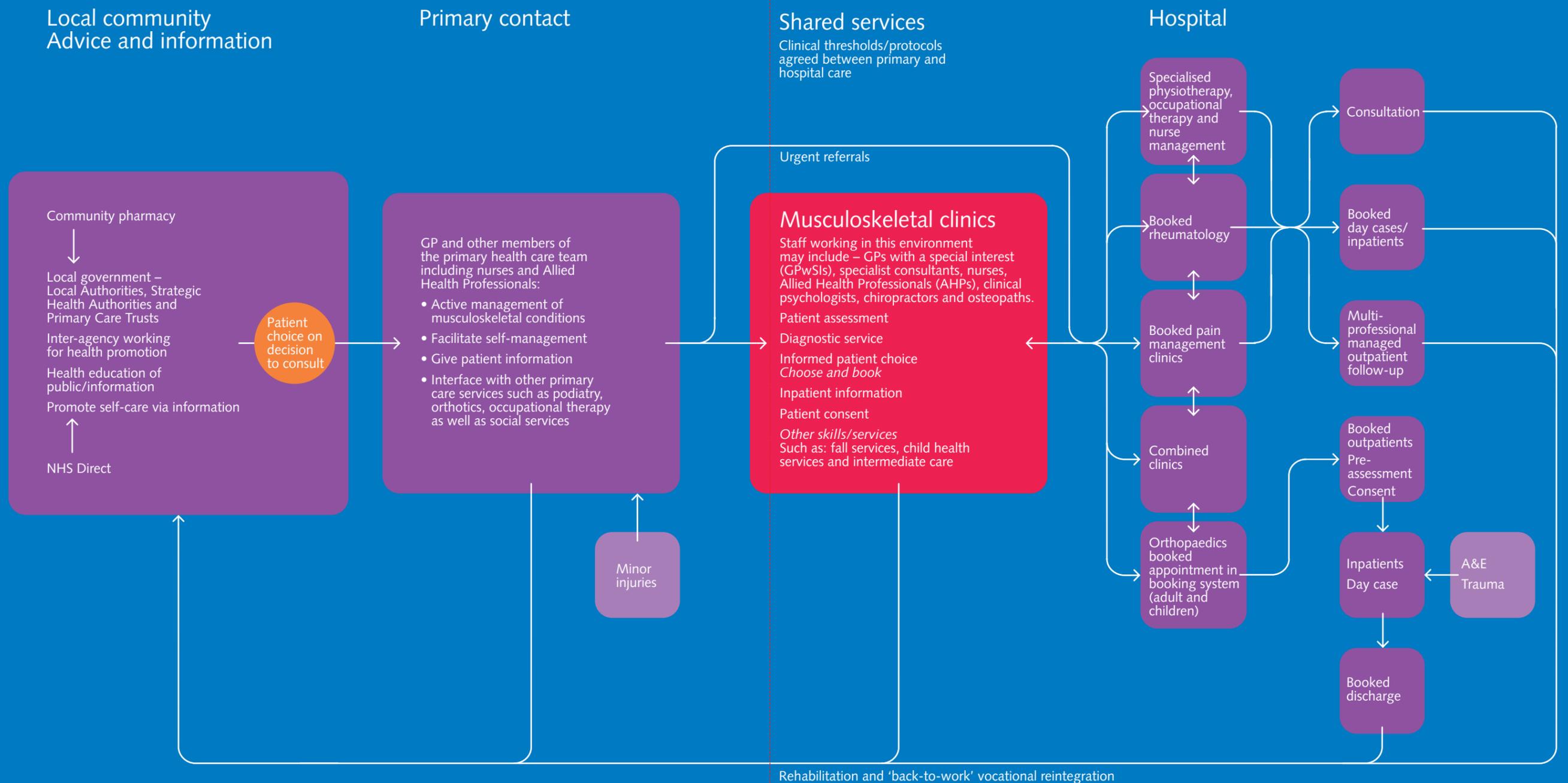
| | | | | |
|------------------|--|------------|----------|---------------------|
| Policy | HR/Workforce | Management | Planning | Clinical |
| Estates | Performance | IM&T | Finance | Partnership working |
| Document purpose | Best Practice Guidance | | | |
| ROCR ref | Gateway ref 6857 | | | |
| Title | The Musculoskeletal Services Framework – A joint responsibility: doing it differently | | | |
| Author | Department of Health | | | |
| Publication date | 12 July 2006 | | | |
| Target audience | PCT CEs, NHS Trust CEs, SHA CEs, Foundation Trust CEs, Medical Directors, Directors of PH, Directors of Nursing, PCT PEC Chairs, GPs, Allied Health Professionals | | | |
| Circulation list | Medical Directors, Allied Health Professionals, GPs, Voluntary Organisations, Royal Colleges and many individual professionals | | | |
| Description | The Musculoskeletal Services Framework summarises the current state of musculoskeletal services in England. It then provides a description of how services could be improved and offers case studies to assist NHS staff in making changes. The document is extensively referenced throughout. | | | |
| Cross ref | N/A | | | |
| Superseded docs | N/A | | | |
| Action required | N/A | | | |
| Timing | N/A | | | |
| Contact details | Paul Moore Department of Health 4N34 Quarry House Leeds LS2 7UE | | | |

For recipient's use

Contents

| | |
|---|-----------|
| Summary | 01 |
| Chapter 1: Musculoskeletal Services Framework | 04 |
| 1.1 Introduction | 05 |
| 1.2 The vision | 06 |
| 1.3 The approach | 06 |
| 1.4 The Musculoskeletal Services Framework | 07 |
| 1.5 The Framework in practice | 08 |
| 1.6 Implications of the Framework | 08 |
| Chapter 2: Where we are now | 10 |
| 2.1 Musculoskeletal conditions – the scope and key issues | 11 |
| 2.2 A changing NHS | 15 |
| 2.3 Current issues in service provision | 16 |
| Chapter 3: Care outside hospital | 18 |
| 3.1 Introduction | 19 |
| 3.2 NHS and Social Care Long-Term Conditions Model | 19 |
| 3.3 Supporting wellbeing and self-care | 20 |
| 3.4 Contact with the health and social care team | 22 |
| Chapter 4: Care at the interface | 26 |
| 4.1 Introduction | 27 |
| 4.2 Functions of multidisciplinary Clinical Assessment and Treatment Services | 27 |
| 4.3 Setting up a multidisciplinary Clinical Assessment and Treatment Service | 28 |
| 4.4 Clinical services provided within a multidisciplinary Clinical Assessment and Treatment Service | 30 |
| Chapter 5: Hospital care | 34 |
| 5.1 Rheumatology | 35 |
| 5.2 Pain management | 38 |
| 5.3 Rheumatology and pain services for children | 39 |
| 5.4 Orthopaedic surgery – current activity and scope | 40 |
| 5.5 Orthopaedic surgery – commissioning and delivering improved services | 45 |
| 5.6 Supportive, palliative and end-of-life care | 49 |
| Chapter 6: Making the changes | 50 |
| Annex: Roles of health and social care staff | 52 |
| References | 60 |

Musculoskeletal Services Framework



Summary

Overview

There are over 200 musculoskeletal conditions affecting millions of people, adults and children, including all forms of arthritis, back pain and osteoporosis. Some, including those resulting from injuries, can result in long-term disability. It is estimated that up to 30% of all GP consultations are about musculoskeletal complaints. The ageing population will further increase the demand for treatment of age-related disorders such as osteoarthritis and osteoporosis.

People with musculoskeletal conditions need a wide range of high-quality support and treatment from simple advice to highly technical, specialised medical and surgical treatments. They have endured some of the longest waiting times for hospital care, particularly in orthopaedics. While excellent care is happening in some places, in many areas services are fragmented and incoherent, with poor access to care. The Musculoskeletal Services Framework (MSF) addresses these issues by describing best practice, built around evidence and experience, and recommends actions for changing practice. It promotes:

- redesign of services, and full exploitation of skills and new roles of all healthcare professionals;
- better outcomes for people with musculoskeletal conditions through a more actively managed patient pathway, with explicit sharing of information and responsibility, agreed between all stakeholders in all sectors – patients; the NHS and local authorities; and voluntary/community organisations.

The central tenet of this document is to provide the appropriate level of high-quality information, support and treatment to those with musculoskeletal conditions. Support and treatment should be offered as close to home as possible and be holistic in approach, addressing psychological and social needs as well as the physiological. For many people with musculoskeletal conditions, assistance with the management of their condition will be as important as its treatment.

Multidisciplinary interface services are central to the Framework, acting as a one-stop shop for assessment, diagnosis, treatment or referral to other specialists. The triage process identifies people who can benefit from rapid access to local services, and those who will need hospital referral.

The MSF is part of the Government's strategy for long-term conditions, which includes *Supporting people with long-term conditions: Improving care, improving lives*¹ and the *National Service Framework for long-term conditions*.²

The development of the MSF has involved a wide range of people – voluntary organisations representing patients; NHS staff, including allied health professionals (AHPs), nurses, doctors (GPs and consultants) and commissioners; the independent sector; osteopathy and chiropractic care colleagues; and many others. Professional groups were well represented. Colleagues from across the Department of Health have contributed, along with input from the Department of Work and Pensions, the Department for Transport, the Department for Communities and Local Government and the Department for Education and Skills.

The following paragraphs summarise the chapter content and each chapter concludes with good practice action points.

Chapter 1:

Musculoskeletal Services Framework

- Explains the purpose of the MSF and its role in improving musculoskeletal services.
- Looks at the extent of the problem, reporting the prevalence of musculoskeletal conditions and the impact on local services.
- Describes the vision for musculoskeletal services.
- Specifies the principles underpinning the vision, looking at the benefits of the approach.
- Gives an example of a patient care pathway.

Chapter 2:

Where we are now

- Looks at national policies relating to the Government's drive for change throughout the NHS and shows how the changes proposed will affect services for people with musculoskeletal conditions.
- Reports the prevalence of musculoskeletal conditions, looking at factors that influence rates across population groups and the myths surrounding some key musculoskeletal conditions.
- Describes the clinical picture, detailing the variety in type and severity of musculoskeletal conditions and the pattern of healthcare service use by sufferers of such conditions.
- The chapter finishes with a look at current services and identifies areas that can be improved.

Chapter 3:

Care outside hospital

- Covers research showing the benefits of self-care for individuals and local health economies, through preventing and managing conditions.
- Looks at the effect lifestyle factors have on developing and controlling musculoskeletal disorders, and how risk factors can be reduced.
- Highlights the importance of people being able to access high-quality information about healthcare, providing details of places where such information can be found and the responsibilities of those providing it.
- Details the developing roles of professionals involved in the provision of health and social care in a variety of settings outside the hospital.
- Recommends action points on implementation of the Framework.

Chapter 4:

Care at the interface

- Focuses on the development of multidisciplinary Clinical Assessment and Treatment Services (CATS) – looking at their structure, functions and benefits.
- Provides practical advice and best practice for setting up a CATS, outlining the key tasks to be undertaken.
- Considers how certain clinical conditions can be effectively addressed by this service.

Chapter 5:

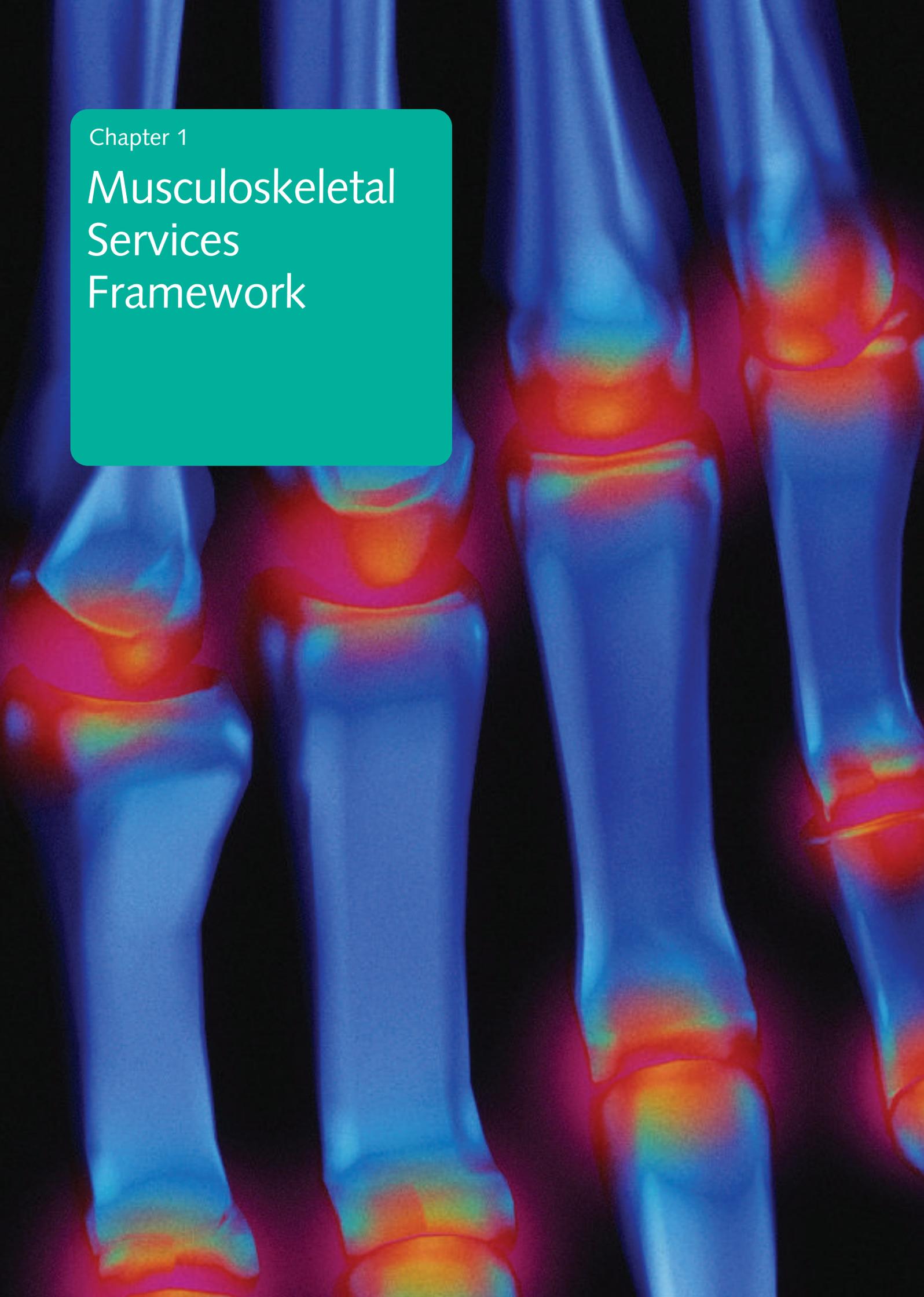
Hospital care

- Provides information on rheumatology and pain management services provided in hospital settings, and the referral process between these and other services – highlighting their importance for the individual and health economies – and identifies areas for improvement.
- Examines the provision of services for children in hospital, looking particularly at the need for better access to pain management and specialised services.
- Details the provision of orthopaedic surgery for elective and trauma patients, quantifying demand for services across different conditions and population groups.
- Describes some approaches to address the deficit between demand and capacity for orthopaedic surgery. This will look at successful approaches learned in the National Orthopaedic Project and recommend good practice points to help achieve further improvements.

Chapter 6:

Making the changes

- Summarises key changes needed to improve the care of people with musculoskeletal conditions and to reduce waits and delays to deliver the 18-week pathway by December 2008.
- Lists companion publications which support commissioning and implementation of the changes.



Chapter 1

Musculoskeletal Services Framework

This chapter:

- explains the purpose of the Musculoskeletal Services Framework (MSF) and its role in improving musculoskeletal services;
- looks at the extent of the problem, reporting the prevalence of musculoskeletal conditions and the impact on local services;
- describes the vision for musculoskeletal services;
- specifies the principles underpinning the vision, looking at the benefits of the approach;
- gives an example of a patient care pathway.

1.1 Introduction

The purpose of this document – *The Musculoskeletal Services Framework. A joint responsibility: doing it differently* – is to support the improvement of services for people of all ages with musculoskeletal conditions, whether these are the result of disease, injury or developmental disorder, to ensure that everyone receives a high-quality service.

In England, as in the rest of the world, musculoskeletal conditions are common, and are a major cause of ill-health, pain and disability. It is estimated that nearly one-quarter of adults and around 12,000 children are affected by long-standing musculoskeletal problems, such as arthritis, that limit everyday activities. Musculoskeletal conditions are the most common reason for repeat consultations with a GP, making up to 30% of primary care consultations. The prevalence of musculoskeletal conditions generally rises with age and, since the number and proportion of older people in the population is projected to increase in future, so the number of people with musculoskeletal conditions will also rise. However, the functional impairment from musculoskeletal conditions varies widely depending on a variety of physical and psychosocial factors.

Reshaping services in line with the Framework will assist in the delivery of improved access. For those patients needing hospital treatment, by the end of 2008 patients will be waiting no longer than 18 weeks from GP referral to the start of hospital treatment. This will cover the outpatient and inpatient waits as now, and will also include, for the first time, the wait for diagnostic services and tertiary referral, as part of the whole patient's journey.^{3,4,5,6}

The Framework has been developed with the advice of a wide range of individuals and organisations: patients; NHS colleagues; the private sector; the voluntary and community sector; and government departments. People with musculoskeletal conditions have a range of needs, beyond health and social care, and the importance of working with a full range of other agencies (including those responsible for housing, transport, employment, education, benefits and pensions) is thus emphasised.

Where possible, the Framework is based on evidence-based guidance or care pathways, and an integrated, multidisciplinary approach. Good practice points are set out for NHS and social care organisations, the implementation of which will help improve outcomes for adult and child patients, and their families and carers.

1.2 The vision

The vision is that people with musculoskeletal conditions can access high-quality, effective and timely advice, assessment, diagnosis and treatment to enable them to fulfil their optimum health potential and remain independent. This will be accomplished through systematically planned services, based on the patient journey, and with integrated multidisciplinary working across the health economy.

The following quotation from *Bone and joint futures*⁷ summarises the key change that needs to occur:

The management of musculoskeletal conditions is multidisciplinary, but the integration of the different musculoskeletal specialties varies between centres. Usually, rheumatologists, or orthopaedic surgeons, work closely with the therapists, but there is little integration of the medical specialties themselves and there are few examples of clinical departments of musculoskeletal conditions embracing orthopaedics, rheumatology, rehabilitation, physiotherapy and occupational therapy, supported by specialist nurses, orthotics, prosthetics, podiatry, dietetics and all the other relevant disciplines. Hopefully, this will change with time, as part of the integrated activities of the 'Bone and Joint Decade'.

Clearly, within the NHS there are already health and social care teams and groups in this field who are working in this way. The challenge is to generalise such multidisciplinary approaches, based on integrated, shared care.^{8,9,10}

1.3 The approach

The approach is based on shared care, structured around the patient journey, often defined in integrated care pathways (ICPs). International evidence shows that better integration of, and collaboration between, primary, secondary and social care can reduce hospitalisation and yet, crucially, provide better care and a better service to patients and carers alike.¹¹

Shared care

Shared care is not new: its use has been described in the management of many conditions, including diabetes.¹² It is based on the following principles:

- understanding of the needs of the patient population;
- use of multidisciplinary teams;
- integration of specialist and generalist expertise;
- integration and co-ordination of care across organisational boundaries;
- avoidance of unnecessary visits and admissions;
- provision of care, where possible, in the least 'intensive' settings.

Shared care processes depend for their success on the education of participating healthcare professionals, specifically designed information systems, and regular audit and evaluation of services delivered. Systematic processes of care can be documented as clinical protocols, referral guidelines and ICPs.

Integrated care pathways

The value of ICPs in services for patients with musculoskeletal conditions, and many other disorders, has been well documented.^{13,14} ICPs thus form the basis of redesigned musculoskeletal services proposed in this Framework, based on the patient's entire journey. The emphasis is on prevention and self-care, with the patient an active agent, rather than a passive recipient, and on services that are co-ordinated seamlessly: from public health information, to initial points of contact with primary care and referral on to more specialist services.

Experience shows¹⁵ that the benefits of developing and implementing care pathways for the management of patients with chronic disease are:

For the patient

- enabling patients and carers to be involved in developing care pathways, to exercise choice and participate in their own care, and to have a more informed understanding of the quality and outcomes of their care;
- tailoring services round the (often complex) needs of the patient;
- focusing efforts on self-management and prevention;
- improving patient outcomes through more effective and efficient assessment, diagnosis and treatment;

For front-line staff

- refocusing care around the patient;
- promoting use of evidence-based practice;
- promoting effective clinical governance and supporting multidisciplinary clinical audit;
- promoting interdisciplinary team care and the Single Assessment Process (SAP) to ensure that an individual's support needs are considered in a holistic way;
- improving communication between staff in all settings (eg between primary care and hospital staff);
- providing a consistent decision support system for all professionals, including trainees;

Organisational efficiency

- supporting a unified care record and reducing time spent on record-keeping;
- identifying organisational barriers to the delivery of patient-centred care;
- improving the quality, consistency and efficiency of care, often reducing cost of care.

The MSF incorporates these principles.

1.4 The Musculoskeletal Services Framework

The Musculoskeletal Services Framework (MSF) is summarised in diagrammatic form on the inside front cover. It covers all elements of health and social care – prevention; self-care (informed and supported); contact with services outside hospital; the multidisciplinary Clinical Assessment and Treatment Services (CATS), positioned at the interface between primary and secondary care; hospital specialist care; rehabilitation and supporting return to work – and aims to set these in a wider multi-agency context. The Framework aims to support professionals in providing high-quality care for patients.

One of the implications of the Framework is the provision of a wider range of services by a wider range of staff working in primary and community care services, so that patients can access care in convenient, community-based locations, minimising waits and unnecessary hospital visits – a better process of care leading to better outcomes.

The Framework describes a system that enables health and social care professionals to provide more easily a high-quality service to patients. A balanced, well-planned system achieves that, and helps professionals to:

- treat patients at the appropriate point in the system (closer to home or work);
- provide patients with better information to manage their condition, reducing avoidable admissions;
- plan/manage patient flows through primary and secondary care, ensuring appropriate and timely referral to specialist care services;
- develop capacity in primary care by offering a wider range of non-surgical alternatives, eg specialist practitioners, physiotherapy, podiatry, nursing, pain management advice, chiropractic, osteopathy etc;
- shorten waiting times and lengths of stay to deliver the 18-week patient pathway;
- facilitate an individual's return to independent living, including returning to work and/or participation in education, where appropriate;
- use capacity in acute settings appropriately.

Multidisciplinary Clinical Assessment and Treatment Services

The development of multidisciplinary CATS is the keystone of the Framework. CATS brings together skilled professionals from primary and secondary care – allied health professionals (AHPs), extended-scope physiotherapists, GPs with special interests (GPwSIs), chiropractors, osteopaths and nurse practitioners (see the Annex for details), hospital consultants and other specialists. Training for specialist registrars and others can be provided. Functions include full biopsychosocial assessment – vital at this stage – and advice, diagnosis, treatment, radiological/haematological investigations, joint injections, pain management and more.

The service does not detract from the 'normal' functions of primary care professionals: it adds expertise which will benefit many patients who would otherwise be referred to secondary care. CATS can be located in communities, acute settings or both. Successful CATS have involved health and social care professionals from all relevant specialties and professions, and patients in the planning and implementation process.

The implementation of CATS is discussed in Chapter 4.

1.5 The Framework in practice

An example of a care pathway for adult patients with hip and knee pain following implementation of the Framework is presented opposite, to illustrate the principles of the MSF in more detail.

Step 1: Information and education

National and local public health information helps promote a positive attitude to self-management of musculoskeletal health and inform an individual's decision to consult.

There is strong evidence^{16,17,18,19,20} that the provision of patient education and evidence-based information, and the adoption by the patient of the advice, can help to reduce pain and improve coping skills in patients and also potentially reduce costs. Information can also promote exercise, avoidance of obesity, good nutrition and prevention of injury.

Step 2: Access to high-quality front-line care

People with joint pain (hip and knee) can choose who to consult for first-line assessment and treatment, and experience a seamless service between disciplines.

People with joint pain can seek assessment by physiotherapists, chiropractors or osteopaths directly without the need for GP referral, reinforcing the joint health message and saving GP time. Integrated care such as advice on pain management, treatment or support can be accessed as required, from nurse practitioners, pharmacy, podiatry, occupational therapy and orthotic services. Each professional contributes to a single co-ordinated assessment of an individual's health and social care needs, in line with the Single Assessment Process for Older People and the Common Assessment Framework for Children and Young People (and a proposed Common Assessment Framework for Adults).

Step 3: Ensuring appropriate access to a range of specialist opinion

Locally agreed referral processes for specialist opinion.

Practice guidance on the management of osteoarthritis and early referral guidance for rheumatoid arthritis in primary care are available (see *Implementing the Musculoskeletal Services Framework – A guide to website resources* which is to be published shortly).

Step 4: First-line specialist opinion in musculoskeletal CATS

Multidisciplinary CATS support all primary care joint pain referrals.

CATS provide specialist assessment, advice, investigation and appropriate onward referral where necessary. The service is staffed by consultant AHPs, extended-scope physiotherapists, GPwSIs, nurse practitioners, chiropractors and osteopaths. Orthopaedic surgery and rheumatology teams need to be involved in the establishment and delivery of services to provide essential specialist expertise.^{21,22}

Step 5: Pre-listing clinical assessment

Patients should not be listed for surgery unless medically fit and willing to undergo surgery.

To ensure that patients are listed (according to agreed protocol) only when medically fit, multidisciplinary CATS should include links to clinical pre-listing assessment (nurse practitioner-led). These services should include patient education on surgery and an early needs assessment to identify and plan for an individual's anticipated support needs on discharge.²³

Step 6: Listing for surgery

Not all surgical candidates need to see the consultant to be listed for surgery.

In some cases, patients requiring primary hip or knee arthroplasty may be listed for surgery from the CATS, ie by a physiotherapist or practitioner with special interests (PwSI) working in an extended role. **This would only occur using a local protocol agreed by consultant orthopaedic surgeons, which also builds in time for the orthopaedic surgical team to assess the patient before operating, and to obtain legally required informed consent to treatment.** Priority scoring tools (eg Oxford Hip and Knee) can be useful in deciding urgency.²⁴

Step 7: Pre-surgical assessment

Pre-surgical assessment is essential in establishing that patients are still medically fit for surgery, ensuring optimal discharge planning and educating the patient on post-operative rehabilitation.

Multidisciplinary assessment is essential. This may include surgical team review, anaesthetic review, medical fitness review, pre-/ post-operative treatment/management of complex cases (eg inflammatory arthritis patients) and discharge planning (eg home equipment organisation, post-operative exercise explanation (occupational therapist, nurse, physiotherapist). The willingness of the patient to undergo surgery should be confirmed.

Step 8: Outpatient follow-up after surgery

Outpatient follow-up after surgery can be shared between physiotherapist, nurse and consultant-led clinics as locally agreed.

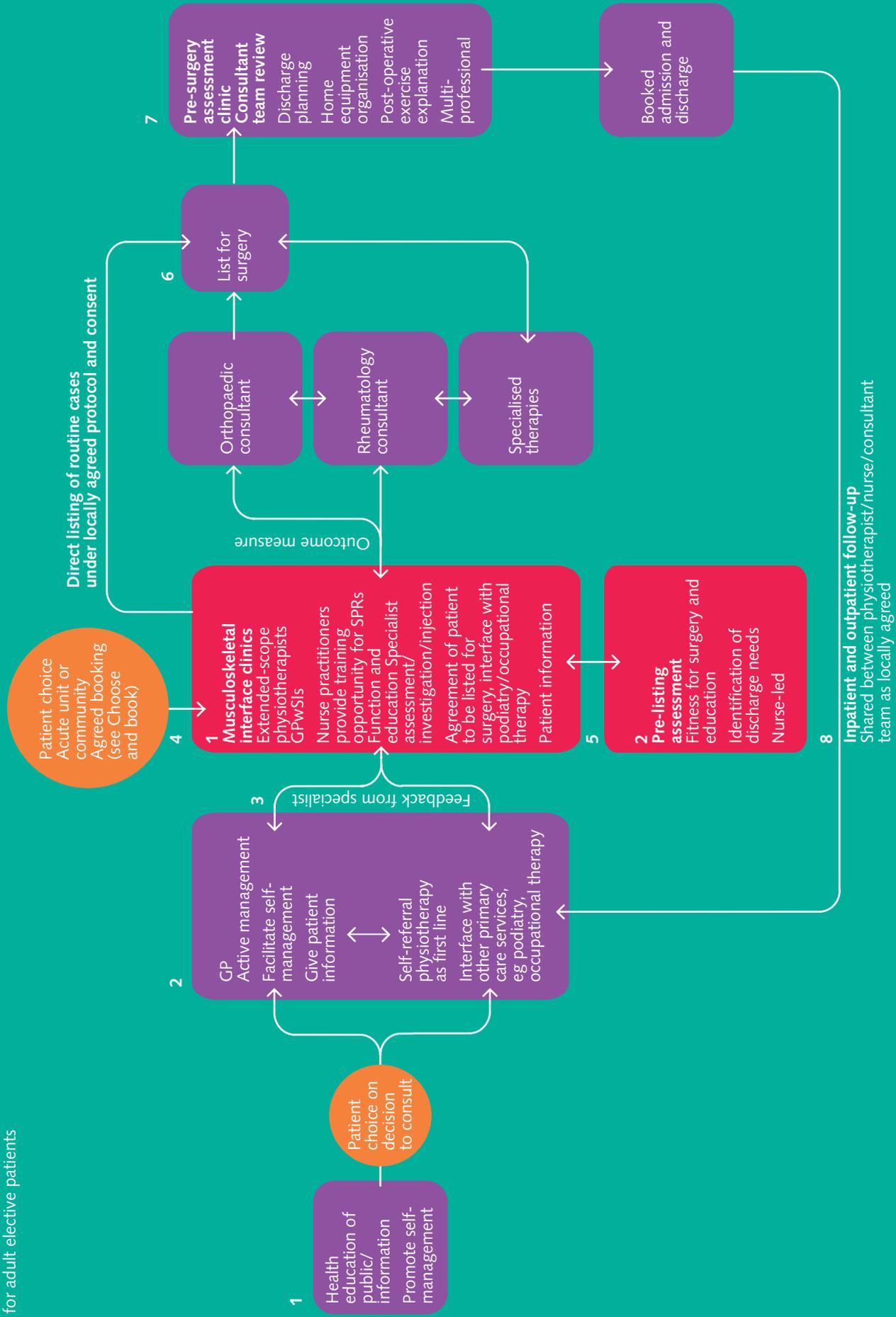
Patients are discharged home and receive follow-up pain management and rehabilitation as necessary in an outpatient or community location. Both short-term and long-term surgical follow-up visits can be shared between the consultant team and physiotherapists/nurse practitioners to optimise use of consultant time and limit follow-up Did Not Attends. Shared notes and clear information sharing systems avoid duplication. The process is locally agreed, using protocols to extend roles as appropriate but ensure registrar training is fulfilled.

Published examples of good practice in local health economies are available.

1.6 Implications of the Framework

The remaining chapters of this document describe where we are now, and the impact of the Framework on the commissioning, planning and organisation of services in primary and secondary care.

Hip and knee pain patient flow from pain onset to surgery
for adult elective patients





Chapter 2

Where we are now

This chapter:

- reports the prevalence of musculoskeletal conditions, looking at factors that influence rates across population groups and the myths surrounding some key musculoskeletal conditions;
- describes the clinical picture, detailing the variety in type and severity of musculoskeletal conditions and the pattern of healthcare service use by people with such conditions;
- looks at national policies relating to the Government's drive for change throughout the NHS and shows how the changes proposed will affect services for people with musculoskeletal conditions;
- concludes with a look at current services and identifies areas that can be improved.

2.1 Musculoskeletal conditions – the scope and key issues

Introduction

Musculoskeletal conditions are common. They include over 200 conditions, often progressive, most of which cause pain and a range of disabilities in adults and children. They include well-recognised conditions such as arthritis or back pain; traumatic injuries such as fractures, which are a major cause of pain, distress and disability; and other conditions that are a result of genetic and/or developmental abnormalities. Bone and soft tissue cancer fall under the broad heading of musculoskeletal conditions, but are covered in the *National Cancer Plan*²⁵ and so are not discussed in this document.

Musculoskeletal conditions have a substantial influence on health and quality of life, and are associated with significant social costs. In Europe, nearly one-quarter of adults is affected by long-standing musculoskeletal problems that limit everyday activities. While no age group is spared, the prevalence of musculoskeletal conditions generally rises with age. The link between age and musculoskeletal diseases along with the ageing population will mean that there will be an increase in demand for musculoskeletal services in coming years.²⁶

In considering musculoskeletal conditions, it is also important to note the prevalence of certain myths that have grown up around conditions such as arthritis and back pain, which can prevent many people, patients and professionals alike, from recognising the need for wider education and information and from developing effective management strategies for these conditions. Some of these are set out in the box below:

Myths about arthritis

- Nothing can be done to treat it.
- Don't exercise if you have it.
- Only old people get it.
- Surgery always makes you better.
- The only options are paracetamol or surgery.
- I won't be able to work if I have arthritis.

Myths about back pain

- Doctors haven't found a cause for my pain – I must need another test/opinion.
- If my pain resolved, all my problems would vanish.
- An MRI (magnetic resonance imaging) scan or other diagnostic test is always needed to diagnose it.
- There is a standard cure for most causes of back or neck pain.
- Rest is the key to recovery from it.
- Exercise made my pain worse; it must have caused more damage to my back.
- Long-term pain means that I need back surgery.
- I won't be able to work if I have back pain.

The good practice identified in this document is intended to provide a framework for better care for the millions of people affected by musculoskeletal conditions and, in doing so, aims to go some way to dispelling many of these myths.

Scope of the disease and key facts

There is a wide variety of musculoskeletal disorders: they can be self-limiting or long-term disabling conditions.²⁷ Minor, often self-limiting episodes of pain around the joints, particularly the back, neck, shoulders and knees, are very common. Causal factors include conditions such as osteoarthritis as well as accident or injury. More disabling and/or chronic musculoskeletal disorders include:

- osteoarthritis and related disorders;
- osteoporosis and associated fragility fractures;
- the results of severe trauma, eg amputation of limb, pelvic fracture, multiple injury;
- rheumatoid arthritis and related chronic inflammatory diseases;
- other auto-immune rheumatic diseases such as systemic lupus erythematosus (SLE), scleroderma and vasculitis;
- haemoglobinopathies;
- chronic pain syndromes such as fibromyalgia.

Unravelling the complex relationships between disease process, perceived symptoms, distress and disability is difficult and time-consuming but vital for the patient to be adequately assessed. Specific competencies will be needed for this assessment.

For **children** with musculoskeletal disorders (minor injuries, growing pains, Osgood-Schlatters syndrome etc), most contact with the health service is with primary care teams. Children with musculoskeletal conditions such as juvenile idiopathic arthritis, Perthes' disease, congenital conditions and developmental disorders such as spinal deformity may be admitted to hospital at certain stages for medical or surgical treatment as the specialist knowledge needed to treat these, relatively rare, conditions exists largely in secondary care. Accident and emergency departments and hospital services also deal with accidental and non-accidental injury. Many of the relevant issues in relation to service are addressed in the *National Services Framework for Children, Young People and Maternity Services*,²⁸ which sets clear standards for providing a high-quality service that meets their needs. Transitional care issues should be considered particularly for children with a diagnosis that necessitates continuing long-term specialist support.

The recent World Health Organization (WHO) and European Bone and Joint Health Strategies Project¹¹ identifies some useful facts about musculoskeletal conditions:

- Musculoskeletal conditions are the most common reason for repeat consultations with a GP – up to 30% of primary care consultations.
- Up to 60% of people who are on long-term sick leave cite musculoskeletal problems as the reason.
- 40% of people over 70 have osteoarthritis of the knee.
- It is estimated that 8–10 million people in the UK have arthritis, including 1 million adults under the age of 45, upwards of 12,000 children and 70% of 70-year-olds.
- Low back pain is reported by about 80% of people at some time in their life.
- By 2020, trauma caused by road traffic injury will become the third highest ranked cause of disabling conditions.

Socio-economic impact

The impact of musculoskeletal conditions on the economy is enormous, and increasing. The WHO has declared the current decade (2000–10) the 'Bone and Joint Decade', in recognition of the need to respond to the increasing impact of musculoskeletal disorders.¹¹ Back pain, for example, is the number one cause of long-term absence among manual workers, and a common cause of short-term absence.²⁹

Musculoskeletal patients are the second largest group (22%) receiving incapacity benefits.³⁰ It has been recognised that such patients often have not received the care and support required for their conditions, particularly where these are minor and non-inflammatory. Many such patients need biopsychosocial treatment, as part of a condition management approach, to enable them to continue working. The Department for Work and Pensions has therefore initiated Pathways to Work pilots, in partnership with the Department of Health (DH). These are designed to help more of the 2.6 million people on incapacity benefits (about 500,000 of whom have musculoskeletal disorders) build up their own capabilities and return to work. At present, the seven existing pilots cover 9% of the country. The pilots directly fund and work closely with the local health economy to provide (or commission) 'condition management programmes' (CMPs).³⁰ By the end of March 2005, nearly 5,000 people had been referred to CMPs across all the pilot areas. The pilot results are encouraging, demonstrating improvements for the first time for people on benefits, including:

- a six-fold increase compared with the rest of the country in the numbers of people with health conditions trying to get back to work;
- a significant increase in the proportions leaving benefit, compared with the rest of the country.

Research

Biomedical research is yielding many technological advances, offering new ways to diagnose and treat musculoskeletal conditions, including: the development of anti-TNF alpha drugs, improved prostheses for joint replacement surgery and for amputees,³¹ and improved diagnostic techniques (including MRI, DXA scanning and ultrasound). National Institute for Health and Clinical Excellence (NICE) guidance is based on such research evidence.^{32,33,34,35,36}

Other key issues

There are a range of other important issues that need to be considered in seeking to improve the lives of people with musculoskeletal conditions. These are considered in detail throughout this framework and include:

Inequalities

There is evidence that disadvantaged social groups have a higher incidence of some musculoskeletal disorders such as osteoarthritis, and yet studies have shown that surgical intervention rates for arthritis vary throughout the country, with social class, disadvantaged groups having a lower intervention rate.^{37,38,39} This is illustrated in Chapter 5. Individuals from diverse ethnic and cultural backgrounds may also have differing healthcare needs and require different support from the health service.⁴⁰

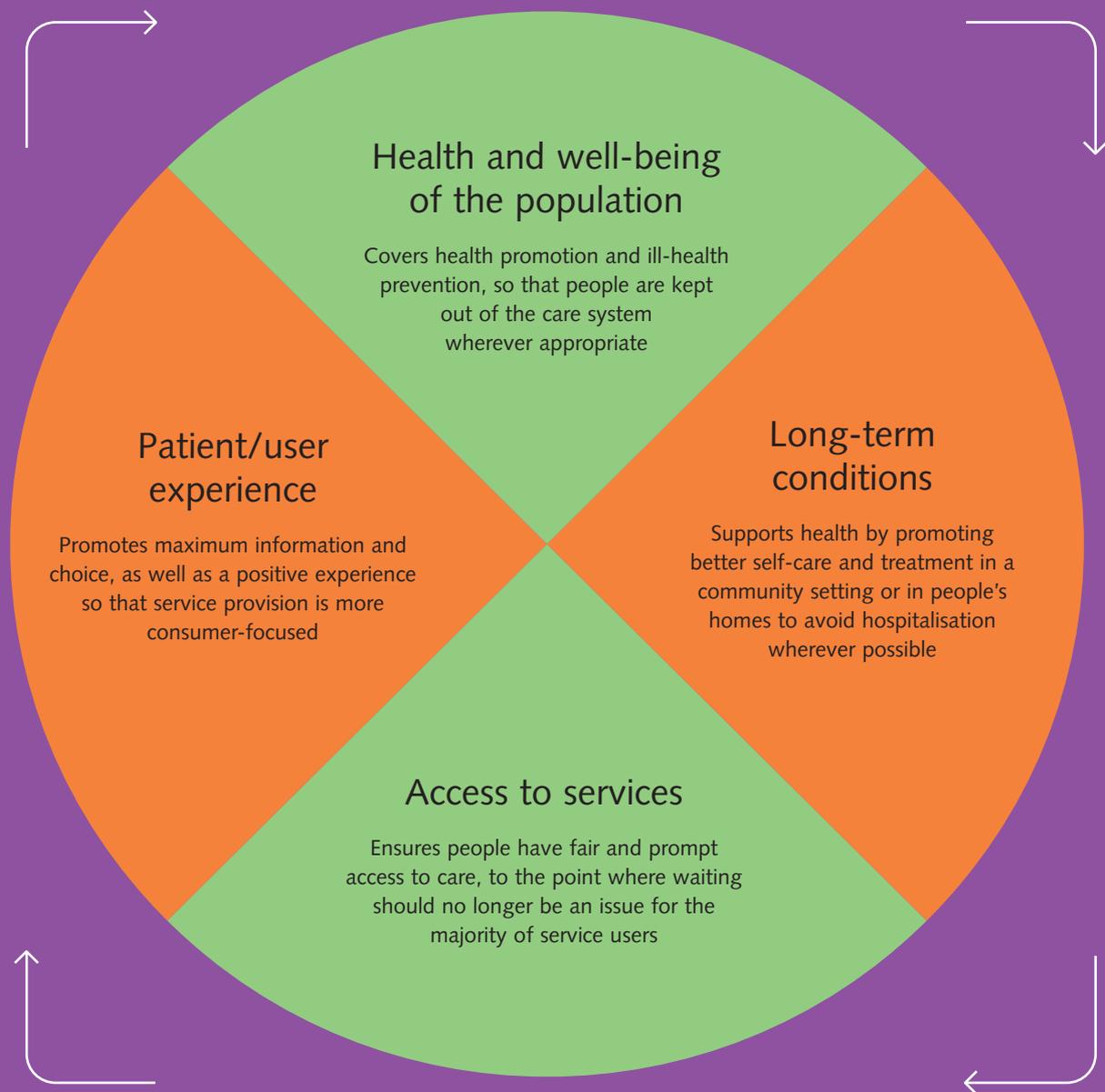
Lifestyle

Lifestyle factors can contribute significantly to the prevalence of musculoskeletal conditions. Preventive measures are vitally important at both an individual and an organisational level. The understanding and management of these risks are discussed in Chapter 3.

Injuries

Injuries are a major, and largely preventable, cause of musculoskeletal problems, in both the short and long term. In 2003, 291,000 people were injured in road accidents, 11% of whom were children (under 16 years old).⁴¹ Injuries are discussed in Chapters 3 and 5.

The national priority areas



Source: National standards, local action: Health and social care standards and planning framework 2005/06–2007/08

Milestones to 2008

| Wait | March 2006 | March 2007 | March 2008 | December 2008 |
|--|-----------------------------|---|--|--|
| GP referral to first outpatient consultation | 13 weeks (100%) | 11 weeks (97%) | 18 weeks maximum referral to treatment for 85% of admitted patients and 90% of non-admitted patients | 18 weeks maximum referral to treatment |
| Diagnostics | 26 weeks for MRI or CT scan | 13 weeks for diagnostic test or procedure | | |
| Day case/inpatient treatment | 26 weeks (100%) | 20 weeks (97%) | | |

2.2 A changing NHS

The Government has set out an agenda for far-reaching change that affects the whole NHS, including services for people with musculoskeletal conditions. The reform agenda is driven by a series of interlinked policies designed to ensure that the NHS offers high-quality, patient-centred care, delivered in an efficient manner. *National standards, local action: Health and social care standards and planning framework 2005/06–2007/08* followed on from the NHS Plan and the NHS Improvement Plan, putting people at the heart of public services^{4,42,43} and setting out the level of quality for all organisations in England providing NHS care as 'core' and 'developmental' standards, together with priorities and targets. It identifies the four priorities for the NHS as seen on page 16.

The national targets in *National standards, local action: Health and social care standards and planning framework 2005/06–2007/08* are fewer than in previous years and include a specific new focus on people with long-term conditions.

The key target is the commissioner-led 18-week patient pathway⁶ (www.18weeks.nhs.uk), which guarantees that by the end of 2008 no one will wait more than 18 weeks from GP referral to hospital treatment, including access to diagnostic services. The milestones from now to 2008 are shown in the table on page 16.

This presents a challenge to health economies, particularly for some of the services that are important to adults and children with musculoskeletal conditions, such as MRI, DXA scanning and elective orthopaedic surgery. However, the improvements and waiting time targets are likely to be achieved more readily if the health economies implement the recommendations of the Musculoskeletal Services Framework, many of which are designed to reduce unnecessary waits and delays for patients.

The key national policy areas affecting the provision of musculoskeletal services are summarised below:

Choice of provider

The Government is committed to giving patients greater choice within the NHS, starting with a choice of hospital for patients who require elective care.^{3,44,45} From April 2006, patients will have an extended choice of four or more locally commissioned providers, together with all NHS foundation trusts, all independent sector treatment centres and other (pre-qualified) independent sector providers that meet NHS standards and, by 2008, patients will be able to choose any healthcare provider that meets the required standards. This will be supported by the Choose and Book software system, designed to enable patients to book their appointment electronically.⁴⁶

Implementing NICE guidance

There is a considerable body of guidance published by NICE that is relevant to musculoskeletal services.^{32,33,34,35,36} The Chief Executive of the Healthcare Commission has confirmed that assessing the implementation of NICE guidance, as a component of National Standards⁴⁷ is one of its high priorities. Guidance on technology appraisals and clinical guidelines from NICE are reflected in the standards in the following ways:

- Technology appraisal guidance is included in the 'core standard' for the NHS, ie all NHS bodies should ensure that treatment and care are based on nationally agreed best practice or nationally agreed guidance, including NICE technology appraisals.
- Clinical guidelines form part of the 'developmental standards', ie standards that the NHS is expected to achieve over time. The standard requires patients to receive effective treatment and care that conform to nationally agreed best practice.

Organisations' performance will be assessed on whether they are delivering high-quality standards across a range of areas, including National Service Frameworks, NICE guidance and nationally agreed best practice, as part of the Healthcare Commission's annual 'health check'.

The Secretary of State for Health has directed that NHS bodies provide funding and resources so that clinical decisions made by doctors involving treatments or drugs recommended in NICE technology appraisals can be funded within three months from the date that NICE publishes the guidance. In addition, the roll-out of Payment by Results,⁴⁸ with the treatments recommended in NICE guidance covered by the national tariff, will support the use of evidence-based treatments across the NHS.

The cost implications of NICE guidance for the NHS is taken account of in two main ways: either through an adjustment within the national tariff uplift (dealing with pay and prices, pay reform and technical issues); or through specific adjustments to the national tariff prices directly. The uplift adjustment includes an estimate of the cost implications of NICE guidance – both guidelines and technology appraisals.

Information for the public and for patients

*Better information, better choices, better health*⁴⁹ was published in December 2004 and set a strategic framework for the provision of information to enable people to make better informed choices about managing their own health and treatment options. It will make consistent, high quality information available (including in translation), for example, in people's homes, through interactive TV and the telephone, and in community and health settings, through face-to-face contact. This information is partly intended to support self-care, as a key component of a modern NHS.⁴⁵ *Self-care – a real choice: Self-care support – a practical option* was published by DH in January 2005.

Further national guidance on self-care,⁵⁰ published in February 2006, explained the clinical philosophy that supports optimal self-care. Much of this is encapsulated in the 'biopsychosocial philosophy' – the aim being to help people self-care by reducing symptom-related distress and disability. The biopsychosocial philosophy is the core of self-care and the long-term conditions agenda and it supports and informs partnership working across organisations.

Partnership working

Independence, well-being and choice: Our vision for the future of social care for adults in England (published in March 2005)^{51,52} and *Our health, our care, our say*⁵³ encourage the development of strategic and more dynamic commissioning arrangements between healthcare, social care and wider care communities to promote a sustainable shift away from hospital care towards more effective prevention. This has particular significance in improving the **care of older people** as set out in *Better health in old age: Report from Professor Ian Philp*.⁵⁴ Partnerships will be supported to test local incentives that focus on 'prevention', supporting older people in active and healthy living and avoiding unnecessary or emergency hospital visits. In addition, *Making partnership work for patients, carers and service users: A strategic agreement between the Department of Health, the NHS and the voluntary and community sector* reflects the joint commitment to strengthen partnerships between the statutory and voluntary sectors in health and social care in order to improve the quality and range of service planning and delivery.^{55,56}

Other key policies

This Framework supports and is supported by other key policy documents and further information is given in the reference section,^{1,2,14,16,28,48,57,58,59,60,61} and also in *Implementing the Musculoskeletal Services Framework – A guide to websites and other resources* (to be published shortly).

2.3 Current issues in service provision

Given their prevalence, as described above, it is unsurprising that musculoskeletal conditions are a very common reason for healthcare consultations. It has been estimated that up to 30% of people consulting their GPs, and about 40% of those attending NHS walk-in centres, do so because of a musculoskeletal complaint.⁶² In addition, over 3.5 million 999 calls per year relate to musculoskeletal injuries or conditions – one-fifth of all genuine (non-hoax) 999 calls. The great majority of these will result in treatment at an accident and emergency department.

While most of the self-limiting non-inflammatory disorders are managed in primary care,⁶³ other serious or more complex conditions are treated in hospital within specialist services. Osteoarthritis is the commonest reason for referring patients for joint replacement surgery. Patients with rheumatoid arthritis may also need surgery (sometimes urgently). Osteoporosis is the main cause of fractures in older people. Other patients with rarer multi-system conditions, such as SLE, scleroderma and vasculitis, also require intensive support from a range of NHS and social care services.

The NHS provides a wide range of services for a very large number of patients with musculoskeletal conditions – from health promotion and simple advice to high-technology medical and surgical interventions. However, against a background of rising public expectations, technological advances and an expanding population of older people, many services are facing increasing challenges. Furthermore, in this field, the current configuration and delivery of care have often lagged behind proven advances in practice, with many patients failing to benefit from improved practice. For example, there is growing evidence that early intervention can improve outcomes for people with musculoskeletal conditions⁶⁴ yet many people are still experiencing delays in accessing care. Arthritis Care's *OA Nation* report⁶⁵ records that 39% of respondents visited their doctor at least 3, and in some cases up to 11, times before being offered a diagnosis and, typically, a diagnosis was made approximately 18 months after symptoms first appeared.

Research studies exploring the experience of patients^{66,67} identify some problems in service delivery. Although good practice is evident in some health economies,⁶⁸ too often the following problems are apparent:



Chapter 3

Care outside hospital

This chapter:

- covers research showing the benefits of self-care for individuals and local health economies through preventing and managing conditions;
- looks at the effect lifestyle factors have on developing and controlling musculoskeletal disorders and how risk factors can be reduced;
- highlights the importance of people being able to access high-quality information about healthcare, providing details of places where such information can be found and the responsibilities of those providing it;
- details the developing roles of professionals involved in the provision of health and social care in a variety of settings outside the hospital;
- recommends action points on implementation of the Framework.

3.1 Introduction

People with musculoskeletal conditions want to understand how best to help themselves and how to access a skilled practitioner in the community, when they need additional support and help. Clearly, people need access to different services depending on their circumstances, from access to first contacts for new patients through to intermittent or continuing management and rehabilitation for patients with longer-term needs.⁶⁹ At present, access is not always easy. However, some health economies have succeeded in breaking down boundaries and barriers to develop more flexible and responsive services for people with musculoskeletal conditions.

This chapter draws on such local experience as well as international evidence. The roles of primary care professionals in the care of people with musculoskeletal disorders, including self-care and prevention, are described. The processes that need to be in place for deploying and co-ordinating the full range of available skills and the importance of expanding the number and quality of professionals with extended or specialist roles are emphasised. The crucially important role of primary care trusts (PCTs) and local authorities in assessing the needs of their local populations, mapping their services and commissioning reshaped services based on need is also discussed.

3.2 NHS and Social Care Long-Term Conditions Model

The Department of Health policy, *Supporting people with long-term conditions*,¹ promotes a new model to improve care for people with long-term conditions which include musculoskeletal conditions such as osteoarthritis and rheumatoid arthritis. In looking at care delivery, the model describes three main approaches that are key to the successful care of people with long-term conditions. These are:

Case management

Identifying the most vulnerable people, those with highly complex multiple long-term conditions and using a case management approach to anticipate, co-ordinate and join up health and social care.

Disease management

Providing people who have a complex single need or multiple conditions with responsive specialist services, using multidisciplinary teams and disease-specific protocols and pathways such as the National Service Frameworks and Quality and Outcomes Framework.

Supported self-care

Collaboratively helping individuals and their carers to develop the knowledge, skills and confidence to care for themselves and their condition effectively.

This approach, including health promotion, underpins the vision for the Musculoskeletal Services Framework, the primary care elements of which are described in the following sections.

3.3 Supporting well-being and self-care

'Most people want to help themselves... it's just that they don't know how.' *Back care patient focus group*

Improving well-being is a cross-government agenda, which health and social care services will play an important part in delivering. Commissioners in primary and community care should consider scope to improve well-being in line with the key outcomes for individuals set out in *Independence, well-being and choice*⁵¹ and *Every Child Matters*.⁷⁰ Promotion of well-being will lead to inclusive communities and deliver the conditions to promote healthy lifestyles.

As described in Chapter 2, self-care is an equally important strand of the Government's strategy and is one of the key pillars of the NHS Improvement Plan's vision for a patient-centred care system.^{1,16}

Most people want to help themselves and choose what they consider to be the most reliable and appropriate information. Self-care is what most people do on a daily basis to look after their health and prevent problems developing – taking painkillers for a headache, or avoiding situations that might worsen any health problems. Furthermore, research undertaken as part of *Self-care – a real choice*⁴⁵ shows that 'supporting self-care can improve health outcomes, increase patient satisfaction and help in deploying the biggest collaborative resource available to the NHS and social care – patients and the public'. However, people need access to reliable information about health in order to stay healthy and avoid disease.

For those who have a known condition, greater guidance may be required – for example, the provision of support to help patients access and interpret relevant information on the efficacy of treatment or develop the understanding and skills to manage their own condition.⁷¹ Voluntary and community support, through self-care networks, education and local health partnerships, can help patients stay as healthy as possible and reduce the risk of developing new problems.

Health and social care services will want to make sure that as many people as possible benefit from such support.

The Expert Patients Programme (EPP),¹⁶ established in 2002, is an expanding NHS-based training programme that provides opportunities to people who live with conditions such as arthritis to develop new skills to manage their condition better on a day-to-day basis, through courses delivered by people who have a long-term condition themselves. People with chronic musculoskeletal pain and disability may need a challenge to their often entrenched beliefs. The further expansion of the scope and staffing of the EPP will help address this. Provided with the necessary skills, people can make a tangible impact on their disease – one particular benefit of supported self-care is the potential reduction of unplanned or episodic use of secondary care services.

There is a need for information to help people navigate the system in order to understand entitlements and identify opportunities. Provision of adequate low-level support services can also make an important contribution to supporting independent living for people with long-term musculoskeletal conditions and return to independent living following an episode of hospital care.

'The EPP has really helped me to take more control of not just my arthritis, but also my life. Prior to experiencing the programme, my daily routine would be exactly the same each day.' *Arthritis patient*

Understanding and managing risk factors in making available or developing information

Much information for patients with musculoskeletal conditions has been developed, often by patient organisations. In making this available, or in developing new information, health communities will need to consider the following issues:

Lifestyle choices

Physical activity and diet, for example, can affect musculoskeletal disorders. Physical inactivity and unhealthy diets have contributed to rapid increases in obesity in both adults and children.⁴⁴ The 65% of men and 56% of women in England who are now either overweight or obese have an increased risk of developing musculoskeletal disorders.^{58,72} For individuals who already have musculoskeletal problems, the additional weight, together with a decline in physical activity, may contribute to a loss of mobility and deterioration of general health and threaten their independence.^{73,74} Diets that cause individuals to become significantly underweight can also contribute to the cause and/or progression of some conditions, for example, metabolic bone diseases such as osteoporosis. Smoking and excessive alcohol consumption may also increase the risk of developing musculoskeletal conditions.^{75,76,77,78}

Physical activity

*Choosing activity*⁵⁸ is a cross-government action plan seeking to achieve a more active and therefore healthier England. Although an active lifestyle is key to improving and maintaining health, only 37% of men and 24% of women are sufficiently active to gain any health benefit. Three in ten boys and four in ten girls (aged 2 to 15 years) are not meeting the appropriate levels of physical activity.⁷²

The Chief Medical Officer's report *At least five a week*:⁷⁹ *Evidence on the impact of physical activity and its relationship to health* is aimed at the NHS, specifically public health and PCTs. The report documents the up-to-date research evidence of the benefits of physical activity in the prevention and treatment of several conditions including musculoskeletal disorders, focusing on osteoporosis, osteoarthritis and low back pain. The key points in relation to musculoskeletal conditions are summarised below:

Osteoporosis

- Physical activity can increase bone mineral density in adolescents, maintain it in young adults, and slow its decline in old age.
- For best protection against osteoporosis there needs to be activity that physically stresses the bone – such as running, jumping, skipping, gymnastics or jogging. The period of peak height velocity is the best time for young people, especially girls, to increase their bone mineral density.
- Physical activity in later life can delay the progression of osteoporosis, but it cannot reverse advanced bone loss.
- Physical activity programmes can help reduce the risk of falling, and therefore of fractures, among older people.

Osteoarthritis

- No studies have directly confirmed that physical activity can prevent the onset of osteoarthritis. However, both absence of and an excess of stress on the joints can increase the risk of osteoarthritis.
- Physical activity can have beneficial effects for people with osteoarthritis, including those who have had a joint replacement, but excessive physical activity can be detrimental.
- Obesity is likely to increase the pain felt by those with osteoarthritis especially in the hips and the knees.

Low back pain

- A variety of endurance activities that do not over-stress the lower back can alleviate low back pain. General leisure-time activities are recommended for people with low back pain but they should seek advice about heavier sporting activities and excessive overall levels of physical activity.⁸⁰ Posture-based exercise (eg pilates, yoga) and exercises to increase endurance of the abdominal and back muscles may be helpful.

PCTs and public health networks will want to ensure that they focus on this report and implementing the actions with their local authority and other partners.

Good nutrition is vital to health

While there is high awareness of healthy eating, most people consume less than the recommended amounts of fruit and vegetables but more than the recommended amounts of fat, salt and sugar. *Choosing a better diet: A food and health action plan*⁷² is aimed at all people and organisations with an interest in improving food and nutrition in England – including local communities, voluntary organisations, businesses, local authorities and PCTs. It focuses on obesity education and prevention and improved nutritional standards in schools, hospitals and the workplace. PCTs and health professionals should use every opportunity to take forward the recommendations of the report, including the production of accurate and consistent dietary advice for the public and patients.

Accidents, injuries and the alcohol link

Accidents and injuries not only have a major impact on the health of individuals but also lead to large numbers of attenders at accident and emergency (A&E) departments and admissions to hospital, often to trauma and orthopaedic facilities. Individuals can take simple preventive measures such as always wearing seat belts, ensuring that homes are accident-proof, drinking alcohol in moderation and not driving with illegal alcohol levels. The evidence of the link between alcohol and trauma is compelling. In Great Britain in 2003, there were 19,010 casualties in road accidents involving illegal alcohol levels. Of these, 560 were fatal and 2,580 were serious.⁴¹

Local health economies have a big part to play in reducing risk of accident and injury.⁸¹ The NHS is in a good position to promote educational initiatives (for example by working with parents of young children) and physical activity programmes (see above). Such programmes can help reduce the risks of falls, and therefore fractures, in older people. A&E staff are well placed to play a key role in ensuring patients who present with a musculoskeletal condition are referred on to the most appropriate service, such as a primary care professional or an 'interface' clinic (see Chapter 4). PCT commissioners will want to ensure that these referral processes are in place.

Occupational risks and health

It has been estimated that in 2001/02 over 1 million people in Great Britain had a musculoskeletal condition caused – or made worse – by their current or previous job. An estimated 12.3 million working days are lost every year through work-related musculoskeletal problems. Certain occupations carry a high risk of osteoarthritis: farmers and agricultural labourers are much more likely to develop osteoarthritis of the hips while professional footballers are especially prone to osteoarthritis of the knee. The workplace focus, through occupational health, is on primary prevention through accident prevention, occupational health advice and healthy workplace initiatives. As a major employer, the NHS must take these responsibilities seriously.

NHS Plus (www.nhsplus.nhs.uk) is a network of occupational health services based in NHS hospitals. The network, set up in 2000, provides an occupational health service to NHS staff and its website is a source of evidence-based guidelines on workplace health, useful for NHS managers and others.⁸²

The NHS should also work with other employers to encourage good occupational health in the wider community. This should be in collaboration with other government agencies such as the Health and Safety Executive (www.hse.gov.uk/msd). The Working Backs Scotland initiative has demonstrated the advantages of such an approach to reducing sickness absence and its resultant costs for the individual and society more generally. The programme offers information and advice to employers and employees as to how to minimise the impact of back pain (www.workingbacksscotland.com).

In addition, PCTs and GP practices are **strongly recommended** to make links with the DWP Pathways to Work pilots (Chapter 2) being set up in their area for the benefit of their patients. Building on early success, from October 2005 there has been an extension of the pilots in three phases to cover one-third of people on incapacity benefits by October 2006 including most of the North East, North West and some parts of the West Midlands, where there is a greater proportion of people on benefits.

Ensuring that the public can access advice

In addition to developing the right information, health communities also need to consider how they ensure this information is easily accessible to the public. People need ready access to high-quality information and advice in order to maintain health or manage their own condition, make best use of services and understand treatments. This information needs⁸³ to be medically accurate, relevant, consistent and easy to read. Thought should also be given to the information needs of people for whom English is not their first language, people with sight impairments or learning difficulties and children and young people. Many voluntary sector organisations provide excellent information and advice, and commissioners are encouraged to make use of existing information. By fostering the involvement of smaller organisations that deal with rarer conditions, patients can be directed to the right organisation straight away. Reliable sources include patient organisations such as Arthritis Research Campaign, Arthritis Care and other members of the Arthritis and Musculoskeletal Alliance, community pharmacies, NHS Direct, DH, the National Library for Health and professionally endorsed websites.

In addition to websites, regularly published newsletters, information leaflets and telephone helplines are available to support self-management. Many NHS trusts also provide helpline services – often for patients with more complex health needs, such as those with rheumatoid arthritis.

PCTs can help support self-care by providing consistent information on musculoskeletal conditions across their health economy.

Accompanying this publication is a booklet for patients entitled *Guide for people with musculoskeletal conditions* and a *Guide to website resources*, both of which can be found on www.dh.gov.uk^{84,85}

Asking the pharmacist

About two-thirds of pharmacists work in over 10,000 pharmacies throughout the UK. They have an important role to play in helping to implement the Musculoskeletal Services Framework. As set out in *Choosing health through pharmacy*,⁵⁹ they can help in primary prevention with general advice on diet, physical activity and weight management, particularly for older people. They can advise on the safe and effective use of medicines, can provide educational materials and can assist in patients' self-management by recommending appropriate medicines that are available over the counter without a prescription. They can support self-care, signpost appropriate services and, where appropriate, carry out medicine use reviews. The new pharmacy contractual framework enables pharmacists to do even more to help people with musculoskeletal problems.

Patient support

Patient-led organisations provide a wide range of support including patient groups, websites, newsletters, self-management and volunteer training courses. There is a strong focus on enhancing the individual's ability to self care which reduces the need for reactive, unplanned and episodic use of secondary care services.^{1,86} Sometimes technological solutions may be emphasised at the expense of adaptations and self-care initiatives, and health professionals supporting such groups will want to be sure that advice is evidence-based.

3.4 Contact with the health and social care team

'It would be good to have physiotherapists based more accessibly, in primary care.' *Arthritis Care patient focus group*

As detailed in Chapter 2, people with musculoskeletal conditions account for a large and increasing proportion of consultations in primary care. As well as providing clinical assessment, diagnosis and treatment, the primary care team gives advice to adults and children on healthy lifestyles to help to prevent musculoskeletal problems. Examples such as advice on safe weight reduction, 'Healthy Walks' and referral for exercise can be achieved through close partnership working with local authority colleagues.

'I came to see you just over a year ago with problems relating to recurrent lower backache and tendon pains in my heels. Following an examination, you advised me to look for an arch support for my feet and to take up exercise. I purchased arch supports and joined a fitness club. Now a year on there is very little evidence of pain in both my lower back and the tendons of my heels and my gym membership has been a resounding success.' *Letter from a patient to his GP*

New locations

People can now access primary care professions through NHS walk-in centres. These centres are designed to provide easier patient access to primary care and have treated over 4.5 million people since 2000. At least 40% of visitors to NHS walk-in centres have musculoskeletal problems and thus there is an opportunity for these centres to provide valuable support to the improvement of musculoskeletal services in the NHS. They might, for example, employ a range of professionals including physiotherapists and refer patients presenting with a musculoskeletal condition to the most appropriate service, such as a primary care professional or an 'interface' clinic (see Chapter 4).

New roles

Hitherto, people with musculoskeletal symptoms seeking an NHS service have usually consulted their GP. Others might have consulted a physiotherapist, chiropractor or osteopath in the independent sector. Now, with the development of extended roles and practitioners with a special interest (PwSIs), it is possible for people to refer themselves directly to a range of professionals, such as physiotherapists, either in the primary care team or in other settings.^{9,87,88} PwSIs are doctors, allied health professionals (AHPs), nurses and other health professionals who develop an additional expertise, enabling them to expand their clinical practice in a defined area. Although AHPs involved in musculoskeletal work are able to take self-referrals directly from patients, referral systems around the country may or may not permit this. Self-referral clearly improves access to services for patients but the self-referral pilots highlighted in the White Paper, *Our health, our care, our say*,⁵³ aim to improve understanding of the full economic impact of switching to this approach where it does not already exist. There are many examples of physiotherapists, nurses, podiatrists, chiropractors and osteopaths, and other professionals taking lead roles in the care of musculoskeletal patients. A full description of these roles is given in the Annex.

Case study

Chiropractic care funded by Salford PCT

Chiropractic care has been funded by Salford PCT for a number of years. The chiropractic service is now provided as a point of referral from Salford's tier two musculoskeletal assessment service. Patients who attend the tier two service are referred on as appropriate to one of two chiropractors. The PCT was keen to continue to commission the service because of the choice of manipulative treatments it offers to patients and the evidence base which underpins this. Patients also value the service. Some patients have asked to use the service again because they have found it of benefit in the past. The service offers prompt access to its service and good geographic coverage. The contract is closely managed by the PCT. A course of treatment consists of an assessment and then up to four further sessions with the chiropractor. If the chiropractor thinks the patient requires further treatment they must request this via the tier two service.

Case study: The Physio Direct telephone service, Huntingdonshire PCT

The Physio Direct service was set up to improve access by allowing patients to self-refer. Set up following a pilot in 2001 and subsequent audit, it operates for the local population of Huntingdonshire, totalling 155,000. It works as follows:

- A computer program records clinical data to assist the physiotherapist in making a diagnosis.
- The patient receives verbal and written advice on self-management. This may include advice on over-the-counter medication following training from a pharmacist.
- The GP receives a report on the outcome of the assessment.
- The physiotherapist may also request a prescription or sickness certificate from the GP without the GP needing to see the patient.
- Clear pathways exist to refer patients on to secondary care.

The success of the pilot service was demonstrated by the audit, which showed that two-thirds of patients could be effectively managed on the telephone with the remaining patients requiring an appointment. It also highlighted a reduction in waiting times, demand for GP appointments and Did Not Attends (DNAs) from 15% to 1%. Physio Direct has had a major impact on the musculoskeletal service and the quality of patient care.

Clinical governance issues include having a robust clinical supervision and clinical risk management strategy. Clinical guidelines and access to highly experienced staff are essential, particularly for non-musculoskeletal conditions. Staff document and share learning experiences.

Physio Direct was a national finalist in the primary care section of the Health and Social Care Awards 2003, and was recognised by the Commission for Health Improvement as exemplary practice.

Independent nurse prescribing (extended formulary) was introduced two years ago and has been shown to be viewed positively by patients, doctors and nurses themselves, with patients citing accessibility as a major advantage.⁸⁹ DH has introduced supplementary prescribing – training nurses, pharmacists and some AHPs (physiotherapists, chiropodists/podiatrists and radiographers) so that they can prescribe certain medicines, within agreed clinical management plans.⁹⁰ Supplementary prescribing is intended to provide patients with quicker and more efficient access to medicines, making best use of the skills of highly qualified health professionals and, over time, supplementary prescribing is also likely to reduce doctors' workloads, freeing up their time to concentrate on patients with more complex conditions.

All of these developments, available in a variety of settings, are of great significance to those with musculoskeletal conditions: people can refer themselves to a greater range of primary care professionals, who in turn can provide a greater range of treatments. PCTs will want to exploit all these possibilities in commissioning and managing care for their population.

For **children and their families**, the great majority of contact with the health service is with the primary care team. The *National Service Framework for Children, Young People and Maternity Services* provides detailed guidance on changes in services which are needed to provide high-quality, integrated care and includes a tool to assist in implementing those standards that apply to the work of the primary care team.^{28,91} For the care of children and young people with musculoskeletal conditions, the NSF standard on *Disabled children and young people, and those with complex health needs*⁹² is particularly relevant, as is the *Complex disability exemplar*,^{93,94} an accompanying publication that illustrates the key themes of the NSF through an example patient pathway.

Rehabilitation services

People with musculoskeletal conditions often need rehabilitation,⁶⁹ and government policy is that rehabilitation services should be provided for all those who need them. Rehabilitation is part of the treatment and care package for anyone falling within the ambit of NHS care, regardless of the cause of their incapacity. Rehabilitation:

- is multidisciplinary;
- can range from a few simple home adaptations to sustained intensive interdisciplinary inpatient provision;
- may only take a few days, or could continue over a number of years;
- is provided for all age groups;
- addresses physical, mental, social, emotional and spiritual needs;
- seeks to enable people to retain or return to as independent a life as possible.

Although there are consultant specialists in rehabilitative medicine and specialist rehabilitation units around the country, much rehabilitation is provided in community and primary care settings, or in the individual's own home by a range of care professionals. Social care and other local authority services and facilities play a key role through, for example, home care, swimming pools and leisure centres.

It should be noted that rehabilitation means different things depending on the circumstances of the patient. Sometimes the emphasis is on remaining at, or returning to, work: the role of early diagnosis and intervention will be of great importance here, as will the various programmes offered by the Department of Work and Pensions to assist people in the workplace.²⁷ In other circumstances, rehabilitation will focus on personal or social aspects such as study, family or caring responsibilities or active retirement. Here the information services and self-management courses offered by voluntary organisations can be as important as those available directly through health and social care.

Access to rehabilitation services has not always been easy. The *NSF for long-term conditions*,² however, makes a series of recommendations to enhance specialist, community and vocational rehabilitation. In addition, in its response to the Better Regulation Task Force 2004 report *Better routes to redress*,⁹⁵ the Government committed 'DH [to working] with partners in government to improve the provision of NHS rehabilitation services. The Chief Medical Officer has commissioned a scoping study of current provision of NHS and social care rehabilitation services. It aims to identify where service improvements are needed.'

The aims of the study include:

- mapping current levels of provision and models of service and, where possible, cost-effectiveness of rehabilitative services;
- identifying any gaps in service (whether by care group, condition or area);
- identifying good practice exemplars (eg innovative models of provision);
- identifying opportunities to improve NHS-funded services.

The study has looked in broad terms at all aspects of rehabilitation provided by both the NHS and social care, other than those relating to mental health, as well as drug and alcohol rehabilitation.

Equipment and adaptations

Community equipment and telecare (help which is provided remotely through the use of telecommunications technology) play a vital role in enabling people of all ages, including children, to maintain their health and independence, and to prevent inappropriate hospital admissions.^{96,97} Since 2003, all community equipment loaned or given to people is free of charge, as are adaptations costing under £1,000 (minor adaptations) which are provided by councils.⁹⁸ In addition, DH announced £80 million over 2006/07 and 2007/08 for a 'Preventative Technologies Grant' which will help councils and their health service partners introduce electronic technology (telecare) into people's homes to help keep them independent and prevent them going into care or hospital. Many voluntary and community organisations also provide mobility equipment supplementary to that provided by the statutory services.

Good practice action points

Healthy lifestyle and self-management

- Commission health awareness campaigns (eg on diet, mobility and exercise) for people with musculoskeletal conditions.
- Signpost or develop high-quality, readily accessible information for patients, engaging local, national and voluntary/community organisations.
- Collaborate with sport, leisure and transport providers to develop strategies encouraging people to increase levels of physical activity.
- Develop a self-care strategy involving patients and the public, based on their requirements and preferences, and ensuring that the Expert Patients Programme is fully integrated into the strategy.
- Ensure that each health economy maintains patient-led, self-management programmes for key musculoskeletal conditions.
- Work with clinical professionals to ensure use of new roles and contract flexibilities to support self-care and medicine management.
- PCTs and GPs are recommended to make links with the DWP Pathways to Work pilots (Chapter 2) being set up in their area.

Organisation of services

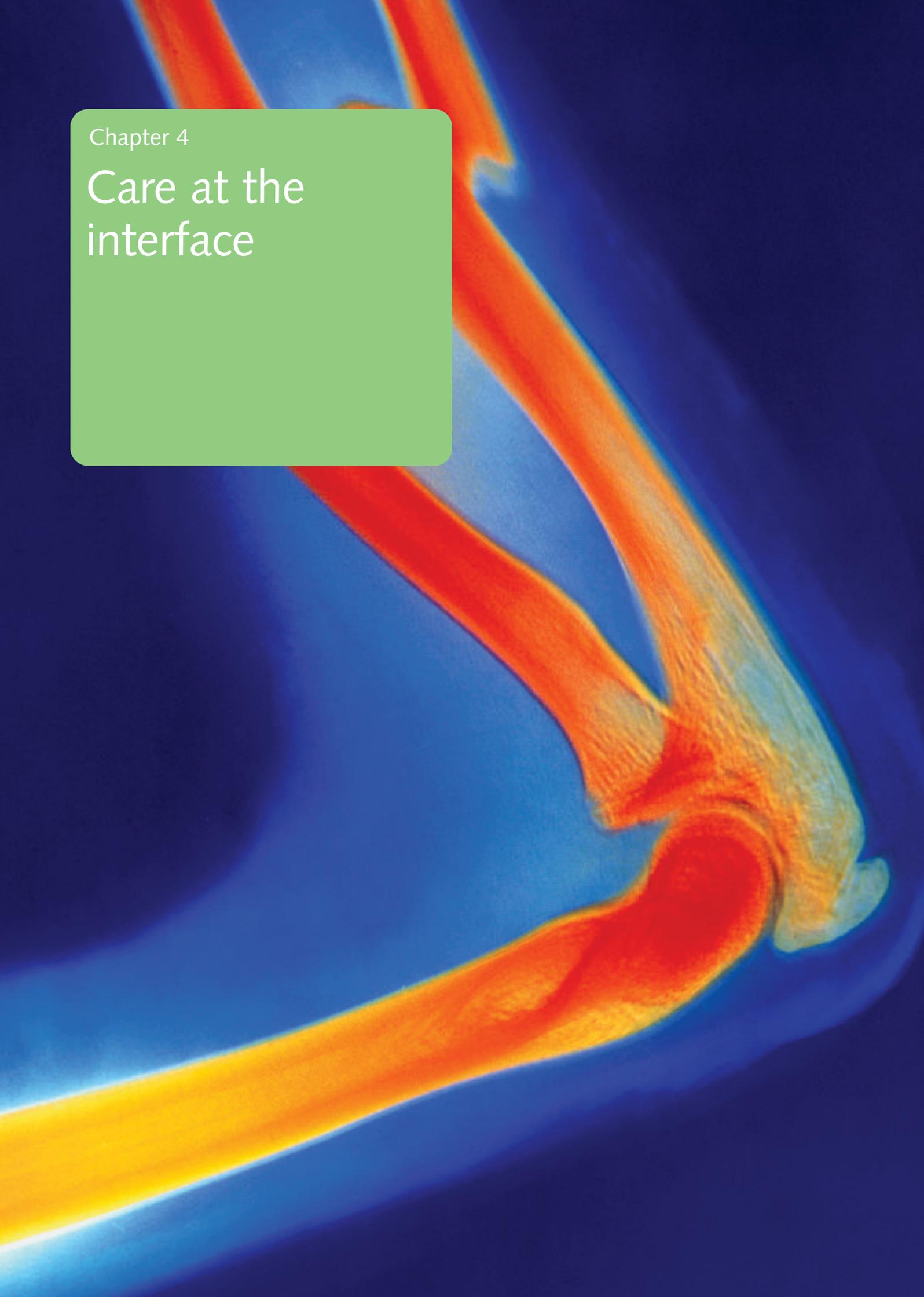
- Increase focus on musculoskeletal services to ensure awareness and ownership by all those delivering care to people with musculoskeletal conditions.
- Identify clinical champions from both primary and secondary care.
- Map current resources and their use by people with musculoskeletal conditions, including NHS and other services outside hospital; hospital-based elective and emergency services; and use of diagnostic departments. Identify gaps and need for investment.
- Agree location of Clinical Assessment and Treatment Services which may be in primary care or the acute unit or both to fit with local services structure.
- Based on the findings of the mapping process, the local health economy may wish to consider how to implement the recommendations of the Musculoskeletal Services Framework. This would be based on agreed clinical and organisational pathways and would set out clinical governance, clinical audit and accountability requirements.
- Agree and employ a standardised process for collecting outcome data across all components of the service in the health economy.
- Plan for the future increases in workload necessary to provide easy access to services for patients, and to deliver the 18-week patient pathway.

Developing the workforce

- Encourage the development of new roles in primary care (eg extended scope, special interest and non-medical consultant roles) by promoting the benefits to GPs, AHPs, nurses, pharmacists and others.
- Provide training for staff in new roles
- Foster joint training initiatives to include, for example, bringing together primary care, hospital and social care teams.

Chapter 4

Care at the interface



This chapter:

- focuses on the development of multidisciplinary Clinical Assessment and Treatment Services (CATS) – looking at their structure, functions and benefits;
- provides practical advice on setting up a CATS, outlining the key tasks to be undertaken;
- considers how certain clinical conditions can be effectively addressed in this service;
- recommends good practice points on setting up CATS.

4.1 Introduction

For NHS patients with musculoskeletal problems, the present system relies very heavily on referral to hospital for most conditions. However, many patients with musculoskeletal problems do not need to be treated in hospital and, indeed, can receive faster and more appropriate care in a community setting. This creates problems for both patients and clinicians. Rheumatologists and orthopaedic surgeons spend valuable time seeing patients who do not need their input. Many patients are referred to hospital whose needs could be better met elsewhere and often endure a wait for access to services during which they receive very little active management. These patients also increase the waiting times for those who do require specialist hospital care, particularly orthopaedic surgery, thus creating delays before crucial interventions can be offered to this group of patients.

In delivering better orthopaedic services with shorter waits and fewer delays, health economies need to develop a system that reduces referrals to hospital while ensuring that patients are directed towards the most appropriate services and clinicians. For most health economies, this will be the development or expansion of a multidisciplinary CATS working at the interface between primary and secondary care. The well-designed CATS provides efficient, rapid assessment, diagnosis and treatment of patients with a variety of musculoskeletal problems

The Audit Commission considers the creation of CATS through service redesign as of 'great strategic importance'.⁹⁹ Other publications^{8,100} provide evidence that such services can ensure that patients are actively managed by skilled staff, rather than being lost in the system or 'bounced around' and thus help patients to receive treatment at the appropriate time and to continue to lead an active life.

4.2 Functions of multidisciplinary Clinical Assessment and Treatment Services

A number of health economies have already established services of this type. The precise structure and functions of existing services vary from health economy to health economy. The generic functions are to:

- provide an expert multidisciplinary opinion for patients referred by their GPs, offering an alternative to direct referral to an outpatient consultant clinic;
- screen for important remedial conditions and refer patients as appropriate;
- direct patients to appropriate services for investigation, or referral back to the GP;
- conduct clinical assessments; organise diagnostic investigations; provide advice and treatment, including injections; inform and educate patients;
- agree and test integrated care pathways (ICPs), which must be built on evidence-based guidelines with locally agreed protocols and quality measures;
- facilitate referral, where necessary, to other primary or secondary care services with agreed referral processes in place which are understood by all;
- support the development of robust systems for monitoring and clinical audit.

It should be noted that referral into a CATS may be inappropriate for some patient groups such as children and adolescents as their particular needs may require a higher level of specialised knowledge.

At the heart of the development of a successful CATS is the need for close collaboration between clinicians in both primary and secondary care and a robust clinical governance system with strong leadership and clear accountability.

4.3 Setting up a multidisciplinary Clinical Assessment and Treatment Service

It is recommended that each health economy explores the option of establishing a CATS with an expectation that most will choose to implement this model of care in the next 12 months. Setting up a service of this nature requires strong leadership,¹⁰¹ and a process that ensures the involvement of patients, health and social care staff from all sectors (primary, community and hospital care), information (IM&T) colleagues and the voluntary sector. It is essential that clinicians and managers work closely together and that information specialists are fully engaged at the outset.^{10,87} The design and location of a CATS is likely to vary from locality to locality, depending on the nature and distribution of services and current clinical practice. They may be located in primary care clinics, hospitals or both. The use of clinicians who work in both locations can optimise the links between primary care and acute unit and communication; aid staff recruitment and retention; and promote staff education and clinical risk management'.

Staff providing care outside hospital need to understand clearly their own role and the roles of others, the referral routes into and out of the service, the development and training needs of clinicians and clinical governance processes.

Staff providing hospital care also need to be fully engaged in the process. The involvement of hospital consultants (in particular orthopaedic surgeons, rheumatologists, pain management specialists and paediatricians/paediatric surgeons) is essential. The consultant (surgeon or physician) plays a major role in diagnosis and assessment leading to surgical/medical intervention and has the skill to be able to match an appropriate surgical/medical intervention with the needs of the individual patient. It is only through close working with the consultant (who will ultimately bear the responsibility of medical or surgical intervention) that members of the team will be empowered and trained to take on some of the responsibilities of diagnosis, assessment and direct listing. Clinical psychologists also need to be involved. Currently, clinical psychology services are mainly based in secondary care. Improved liaison between these services and CATS need to be established.

Clinical assessments are an integral part of the wider framework for assessment of an individual and can build on any existing information (eg the Single Assessment Process for Older People or the Common Assessment Framework).¹⁴ A summary of the proposed intervention and agreed post-operative support will need to be included in the individual's integrated health and social care plan.

Patient groups will also need to be involved. Good, well-written literature for patients referred to the service will be important as patients will then have some understanding in advance as to the type of service that they can expect. The Arthritis and Musculoskeletal Alliance (ARMA), with funding from the Department of Health, has been developing local networks to improve musculoskeletal service delivery. It is suggested that emerging CATS work with ARMA local networks. This will facilitate the process of engaging with stakeholders.

It takes time and careful planning to set up a CATS. An effective project management process with a dedicated project management team is important and a pilot may be useful.

Practical points from case studies are illustrated below:

To set up a CATS

- Ascertain the number of patients attending secondary care for a musculoskeletal opinion and length of average wait: rheumatology and orthopaedic waiting lists.
- Ascertain conversion rate for orthopaedic surgery (ie the percentage of patients attending outpatients who are added to the waiting list), remembering that patients are added to lists not only at the first consultation, but by a variety of routes.
- Ascertain the likely need for specific services eg back pain services, general musculoskeletal assessment.
- Organise meetings of key stakeholders: consultants in orthopaedics, rheumatology, pain; key GPs; physiotherapists and other allied health professionals (AHPs); nurses; chiropractors; osteopaths; diagnostic services; managers; patient representatives.
- Develop referral pathways; referral form based on GP views, GP training sessions and secondary care specialists.
- Identify available evidence-based guidance (eg National Institute of Health and Clinical Excellence (NICE) guidance and ARMA Standards of Care).
- Agree clinical guidelines and protocols.
- Ensure appropriate arms of service available, eg pain management services; back pain functional restoration programmes.
- Put in place agreed training schedules and programmes of continual professional development.
- Agree outcome measures, referring to agreed protocols and standards of care. These should include patient satisfaction measures.
- Agree clinical audit framework and schedules.

Task 1

Assessing the needs of the local population

The current health status and needs of those with musculoskeletal conditions, including children, should be assessed as part of a population needs assessment using current information sources on people with musculoskeletal conditions,^{11,102,103,104} in order to:

- understand the incidence/prevalence of musculoskeletal disorders and health and healthcare inequalities;
- identify where patients are and their use of services;
- map services to identify areas of good practice and service gaps and bottlenecks;
- evaluate current clinical and other outcomes.

Health economies will already have noted the *Supporting people with long-term conditions guidance*,¹ which highlights the need to 'identify all long-term condition patients in your health community'. The parts of this analysis that pertain to musculoskeletal problems should also be useful in supporting the development of a CATS.

Task 2

Agreeing performance criteria and evaluation of the CATS

Decisions have to be made about data which should be collected in the CATS. While this needs to be agreed locally, it is likely to include:

- activity data on the inflow and outflow of patients;
- subsequent referral and clinical/patient outcome. Specifically, it will be important to know the number of patients referred to outpatients with their tentative diagnoses and accurate waiting times;
- a breakdown of subspecialty referrals and geographical information, so that referral patterns can be understood;
- evidence relating to the proportion of patients actually undergoing surgery;
- the workload of primary care services – as this is likely to increase when the CATS is commissioned, leading to a need to increase capacity;
- Outcomes in terms of function and quality of life and of continuing use of secondary care services.

Evaluation of the CATS as part of a reshaped system will be necessary to demonstrate the impact and should be planned as part of the initial development so that the necessary data can be collected from the outset.

Task 3

Building the team

Plans for staffing a CATS should be based on an understanding of volumes of clinical activity; the potential of new professional roles; and the impact of agreed care pathways. It is vital to appoint clinical, managerial and administrative staff in adequate numbers to ensure that the services can be delivered throughout the year without increasing waiting times, including cover for absences.

Health and social care staff from both primary and secondary care need to meet regularly as a team, firstly to establish the service and thereafter to share good practice and information and deal with any concerns and issues. Communication is essential across different sectors – including independent providers – recognising the increasing focus on plurality.

It is important that those developing a CATS undertake early assessment of the need for education and training of all involved. This will assist in the planning and delivery of development programmes. The CATS is a potential training resource for a range of health and social care professionals and others, in the effective management of people with musculoskeletal problems.

Task 4

Improving access to diagnostic services

The commitment to achieve, by the end of 2008, a maximum 18-week patient pathway from referral to start of treatment includes diagnostic tests. Many people with musculoskeletal conditions require investigations in order to make or confirm diagnosis and offer appropriate interventions. The CATS teams can, as part of the agreed care pathway, schedule investigations and organise direct access for the patient without the need to refer to secondary care.

Similarly, when a patient is referred to secondary care, diagnostic investigations can be organised by CATS staff before the appointment. Care pathways will need to be redesigned by working with diagnostic staff, such as radiologists and radiographers, to reflect these changes. When planning local services a review of capacity in relevant diagnostic services may be useful, particularly as the development of CATS may lead to an increase in complex imaging.

Task 5

Creating links with social services

Social services currently support many people to maintain a high quality of life in their own homes, through the provision of aids and adaptations or care packages. However, eligibility criteria and charging policies vary from one local authority to another and the types of services that are available locally may also vary.

Health economies need to work collaboratively with social care services to ensure that people who would benefit from active occupational therapy intervention, as well as provision of equipment and physical assistance to improve their lives, have information about and access to these services.

4.4 Clinical services provided within a Clinical Assessment and Treatment Service

Multidisciplinary CATS can be established to deal effectively with clinical conditions or symptoms, such as pain (acute and chronic), back pain, trauma from falls, osteoarthritis, inflammatory arthritis, osteoporosis, soft tissue injury, postural problems in children and minor musculoskeletal interventions

The development of CATS will also allow many of these procedures to be carried out in primary care. Well-developed CATS are able to offer the following services to patients:

Symptom control and pain management support

The most common presenting symptom in people with musculoskeletal problems is pain. Qualitative studies^{95,105,106} have shown that what this group most want from NHS services are pain control and help with improving function.

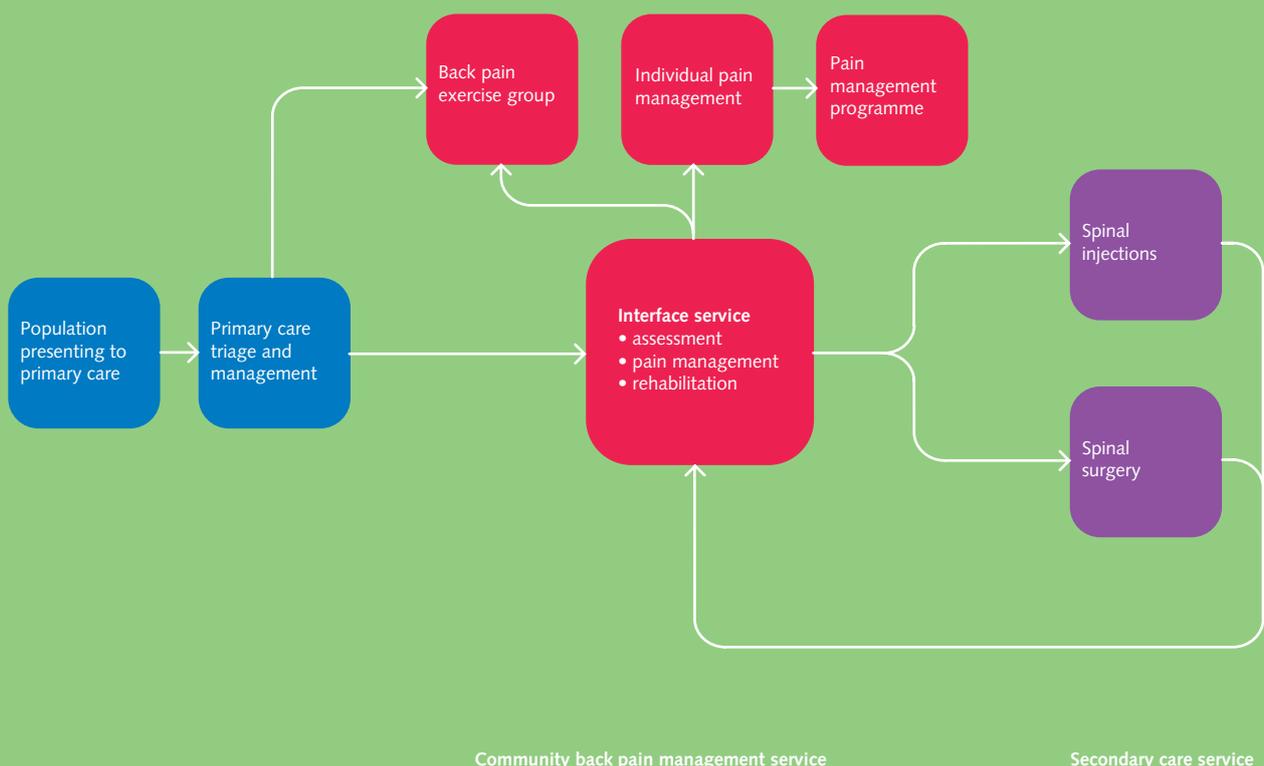
Providing culturally appropriate services for prompt symptom control through education, non-pharmacological and pharmacological treatment is pivotal to enabling an individual to maintain normal activities of daily living.^{107,108}

Relief of acutely painful symptoms may be easily achieved for some people. However, for others, controlling painful symptoms may be more complex and require a range of interventions and specialist support.¹⁰⁹ Medical interventions can be helpful and are particularly effective when offered on an individual basis to support self-management. Pain management includes:

- prompt and effective relief of acute pain where possible;
- access to adequate education and support to help individual patients to understand their disease and to manage exacerbations of pain or fatigue. In many cases, this support can be provided by specialist nurses/AHPs. Using appropriate self-management strategies, including symptom control, patients will be able to manage their pain;
- rapid access for those who require prompt referral to hospital – for example, a child with a painful, swollen knee;
- injections for local bone, joint and soft tissue pain;
- rapid access to specialist teams for complex cases requiring clinical review;
- long-term support for self-managed care;
- training for health professionals who manage acute and chronic pain;
- symptom control improved by practitioners/nurses specialising in pain management.

The Somerset model for back pain management

An example of adolescent pain management



Southampton pain management service

The pain management service is fully integrated with the CATS teams. Specialists work on site and triage referrals together. Referrals to the teams are graded according to complexity. The more complex pain patients undergo a multidisciplinary assessment and have access to a range of treatment options – approximately one-third enter specialist care that involves medical and psychological treatment approaches. The less complex patients are managed by practitioners (predominantly physiotherapists) and nurses specialising in pain management. Some 10% are referred to a multiprofessional cognitive behavioural programme that is also community-based. The physiotherapists can provide education on pain, acupuncture, graded exercise, pacing of activities and access to employment advisers according to need. They have easy access to pain management, specialist supervision, advice and education programmes. Specialist pain management nurses review patients who are having difficulty implementing self-management plans, help them identify priorities and then are able to work with patients to achieve change. They are also able to advise on medication management and other forms of pain relief. All take part in combined education programmes and support other CATS professionals.

Health economies will want to ensure that there is a skilled team to provide care for people with musculoskeletal pain. This might include physiotherapists, general practitioners, nurse practitioners, psychologists and osteopaths and/or chiropractors.^{110,111} Good joint-working arrangements with local authorities will ensure that the best use is made of all available services, including facilities such as leisure centres. Pain management services in CATS are also a resource for providing training and support for healthcare professionals who treat people with musculoskeletal disorders

An example of pain management – back pain

Mild to moderate back pain is very common – four out of five people experience it at some time in their lives. In a 1998 Department of Health survey, 40% of adults reported back pain lasting more than a day in the previous 12 months, while 15% said they were in pain throughout the year.¹¹² Approximately 40% of those in pain consulted a GP for help. Up to 180 million working days were lost in 1997/98 due to back pain.^{9,111}

Evidence shows that most of the care of people with back pain can be dealt with effectively in non-hospital settings such as CATS.¹¹⁰ At present, however, patients are often referred to outpatient clinics without full assessment in primary care, with only around 2% of these unselected referrals listed for surgery. During the period while these patients wait to be seen, many are away from work and receive minimal management of their condition or none at all.¹³

Integrated falls and osteoporosis services

Falls resulting in fractures are common, especially in older people. They are often related to osteoporosis, an important cause of fragility fractures, particularly in women. Osteoporosis affects about 20% of women aged between 60 and 69 years, with increasing prevalence thereafter: the lifetime risk of sustaining an osteoporotic fracture after the age of 60 is 45%. Among British post-menopausal women, the estimated annual number of fractures is 60,000 at the hip, 50,000 at the forearm and 40,000 at the spine, resulting in an estimated annual cost to the NHS of £942 million.³⁵ It is estimated that 50% of older people who suffer a fracture after a fall, find that they can no longer live independently,¹⁴ and up to 14,000 people a year die as a result of hip fractures, many related to falls. The cost to the NHS of treating all fractures from falling is £1.7 billion.

Through the implementation of Standard Six of the *National Services Framework for older people*, local health and social care systems have now organised integrated falls services with prevention and treatment of osteoporosis as an essential building block. An integrated falls service identifies people with a history of recurrent falls and those at risk who can benefit from interventional schemes such as strength and balance training, home hazard and vision assessments, medication review, cardiac pacing and osteoporosis guidance. Integrated falls and osteoporosis services (including fracture liaison services) require planning and implementation across many agencies and sectors and thus multi-agency working linking primary and secondary services is necessary.^{113,114,115} Such services fall naturally into the CATS model.

The following three case studies describe three successful CATS and highlight audit data that demonstrate how these services have improved care for patients in their locale:

Case study

Physiotherapy and GP musculoskeletal interface service – Somerset Coast Primary Care Trust

The Somerset Coast PCT Musculoskeletal Interface Service (MSIS) is a collaborative service between primary and secondary care. Extended scope physiotherapists, GPwSIs, consultants in pain management, clinical nurse practitioners, clerical support staff and a development lead work together to improve the quality of service for patients. A bio psychosocial model of care is used. It was awarded Beacon Site status in 2000 and was runner up in the NHS Modernisation Award for Access in 2001.

Outcomes:

- The waiting time for an outpatient appointment is 4-6 weeks
- MRIs are performed within 2 weeks of request and patients reviewed with the results within 4-6 weeks of request.
- 63% of all GP musculoskeletal referrals are now referred to the MSIS.
- 37% of all patients were given advice and discharged following the first appointment in the service.
- 20% of the patients seen were referred for a surgical opinion. 75-80% of these patients are listed for surgery.
- The approximate cost saving of using this service is £700 per patient. This takes into account the lower conversion rate to surgery than the local orthopaedic department and the savings made by utilising the ISTC.
- Patient satisfaction audits have been carried out and have shown that patients are very satisfied with the clinicians they saw and the service in general.

Case study

Musculoskeletal services at the primary/secondary care interface – University Hospital of North Staffordshire NHS Trust.

Following reconfiguration of clinical services to create a Locomotor Directorate that includes Orthopaedics, Rheumatology and Medical Rehabilitation it became clear that many patients were accessing services in an ad-hoc manner. The service was therefore redesigned to deliver an effective, efficient and coherent musculoskeletal service that met the needs of the community and broke down barriers between professions, settings and organisations and different models of care.

The musculoskeletal service is clinician led with strong managerial support and incorporates:

- Clinical services
 - Dynamic triage of pooled referrals – to reduce the numbers of patients with non-operative conditions attending surgical orthopaedic clinics.
 - Specialist services and clinical teams across primary and secondary care: musculoskeletal team (Consultants, Consultant Therapists, GPSIs); elective surgical; rheumatology; musculoskeletal chronic pain; back pain; and combined clinics.
 - Care Pathways, clinical algorithms, direct listing protocols.
- Training and education
- Audit and research

Outcomes:

- Reduced wait times for patients to the most appropriate clinical area to meet current NHS targets (<13 weeks).
- Improved communication and learning process between professional groups and across health service organisations.
- Efficient use of facilities, time, skills and treatments (surgical, non-surgical, counselling) eg Orthopaedic surgical clinic conversion rate increased from 18% to 60%.
- High levels of satisfaction with the service through surveys of patients and GPs.
- Improved governance and no increased clinical risk through close supervision, mentorship and appraisals.
- Development of AHP autonomy: appointment of two Consultant Physiotherapists and one Consultant Rheumatology Nurse.

Case study

The Fracture Liaison Service, Western Infirmary, North Glasgow Division, GGNHSB

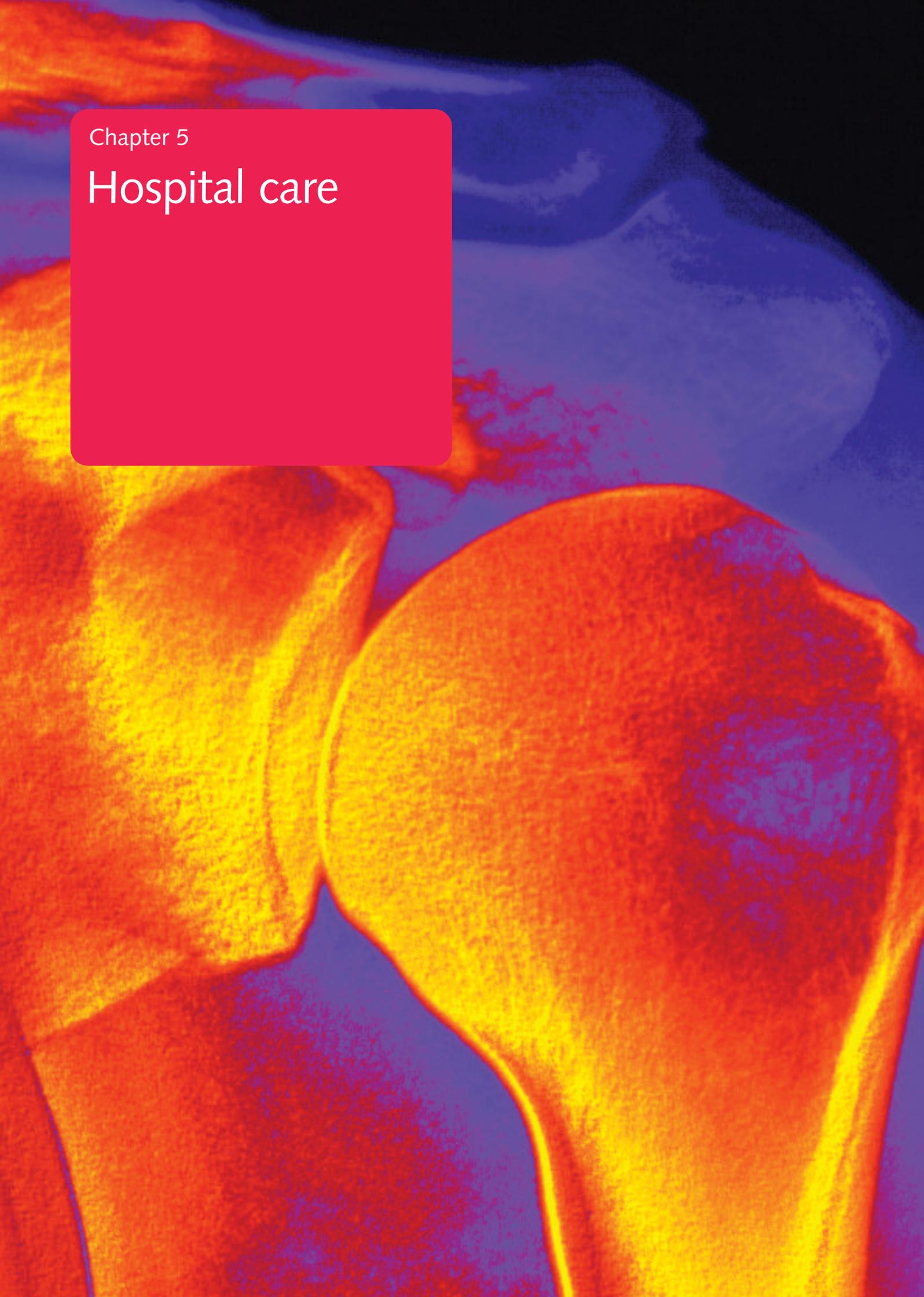
The Fracture Liaison Service (FLS) was set up in 1999 to ensure that all women and men >50yr presenting with a new fracture to A&E or to Orthopaedics & Trauma Services are routinely offered assessment for osteoporosis and, where necessary, receive treatment for fracture secondary prevention. The service covers a population of 960,000 in the greater Glasgow area:

- The FLS is a multidisciplinary service based in secondary care and bridges the current gaps in patient care between Trauma Services, Osteoporosis Services and Primary Care.
- Central to the FLS is the Osteoporosis Nurse Specialist (ONS) whose roles are to: 1) identify all patients with a new fracture at any skeletal site and 2) arrange their subsequent assessment for fracture secondary prevention at the 'one-stop' FLS clinic.
- Patients attend the 'one-stop' FLS clinic 6 weeks after fracture for DXA (spine and hip) and subsequent consultation with the ONS. Patients with osteoporosis are treated according to protocol, and receive appropriate education.
- Current and past fracture histories, risk factors for osteoporosis and for fractures, DXA results and treatment recommendations are recorded in the FLS database. The database also generates the letter for the GP and facilitates a regular programme of audits of outcomes.
- In addition to targeting treatment for fracture secondary prevention, the FLS addresses, where appropriate, non-skeletal contributions to fracture risk through referral to integrated falls-intervention services.
- The FLS finds patients who have sustained fractures rather than putting the onus on fracture patients to seek referral. This ensures equity of access irrespective of socioeconomic deprivation and ethnic group.
- The service provides education about their condition for patients which is reinforced at exercise classes and again through provision of a formal half-day meeting about osteoporosis and fracture secondary prevention

Audit shows >80% of all fracture cases >50yr now undergo assessment for fracture secondary prevention by the FLS; post-fracture mortality, morbidity and refusal account for the remaining 20%. The FLS has transformed the delivery of strategies for fracture secondary prevention.

Good practice action points to support CATS implementation

- Local health economies need to consider the establishment of a CATS service with minimal delay. The lead organisation, likely to be the lead primary care trust, should be identified.
- Clinicians and managers who will be responsible for developing and delivering the CATS need to be identified and a project lead appointed. This project team needs to include a representative from social services.
- These staff need to agree the operational detail of the CATS (eg protocols for referrals to and from the service; discharge from hospital and from CATS; direct listing of patients; ordering of diagnostic tests etc).
- A process for communicating with and seeking advice from all stakeholders needs to be agreed, including liaison with patients and the ARMA networks.
- A communication strategy needs to be agreed and implemented to ensure that all staff understand the workings of the clinic.
- Staff training needs to be organised in line with the operational detail of the CATS.
- A set of activity and audit data for collection by the CATS staff and benchmarking data should be agreed where possible.

A microscopic image of cells, likely from a histological slide, showing various cellular structures. The image is overlaid with a red color scheme, highlighting certain areas. A semi-transparent red box is positioned in the upper left corner, containing the chapter title and number.

Chapter 5

Hospital care

This chapter:

- provides information on rheumatology and pain management services provided in hospital settings, and the referral process between these and other services – highlighting their importance for the individual and health economies – and identifies areas for improvement;
- examines the provision of services for children in hospitals looking particularly at the need for better access to pain management and specialised services;
- details the provision of orthopaedic surgery for elective and trauma patients, quantifying demand for services across different conditions and population groups;
- describes some approaches to addressing the deficit between demand and capacity for orthopaedic surgery, looking at approaches learned in the National Orthopaedic Project that have proved successful and recommending good practice action points to help achieve further improvements.

5.1 Rheumatology

Introduction to rheumatological conditions and their treatment

Significant numbers of people are affected by a range of **rheumatological conditions**, for which rheumatology services provide specialist advice, treatment and support. The conditions include:

- inflammatory diseases – including crystal-related arthropathies, ankylosing spondylitis, psoriatic arthritis, reactive arthritis and the classic auto-immune rheumatic diseases (notably rheumatoid arthritis, systemic lupus erythematosus (SLE), scleroderma, myositis, Sjogren's syndrome and systemic vasculitis);
- bone diseases, including osteoporosis and Paget's;
- soft tissue or regional pain disorders – including generalised and non-articular pain syndromes, tendonitis, bursitis and enthesopathies;
- osteoarthritis;
- back pain.

Upwards of 400,000 adults in the UK have rheumatoid arthritis, while about 200,000 have been diagnosed with ankylosing spondylitis, and as many as 177,000 have psoriatic arthritis. Around 12,000 children under 16 are affected by juvenile idiopathic arthritis – one of the most common causes of physical disability in childhood.

A number of rheumatic diseases vary in prevalence with different ethnic backgrounds. For example, rheumatoid arthritis is less common in the Asian population, but SLE has a higher prevalence in the Asian and Afro-Caribbean population.

Over the past decade, significant developments in inflammatory arthritis **treatments** – notably the biologic agents and bisphosphonates in the treatment of osteoporosis – have been responsible for a reduction in the need for inpatient care. However, the auto-immune rheumatic diseases in particular are associated with co-morbidity, such as cardiovascular disease, while immunosuppressive treatment predisposes infection.¹¹⁶ There is, therefore, likely to be a continuing need for inpatient and day-patient facilities, although long term there is likely to be a decrease in inpatient episodes. Shared care across primary and secondary care should significantly contribute to this reduction.^{117,118}

Some conditions, such as rheumatoid arthritis, require a proactive approach to management, as increasing evidence supports the need to maintain tight control of the disease to optimise treatment.¹¹⁹ This involves regular evaluation of clinical indicators of disease progression, ensuring minimal radiological progression and controlling co-morbidities (eg additional cardiovascular risks, malignancy and osteoporosis).⁷⁸ Such meticulous control of the disease can improve long-term prognoses and prevent additional health problems caused by inadequate management.

There are medicines currently available that can control, or alleviate, the onset and progression of certain musculoskeletal conditions, which include:

- disease-modifying anti-rheumatic drugs (DMARDs) – eg methotrexate – where there is convincing evidence that people with early disease achieve optimum benefit with treatment;¹²⁰
- TNF alpha-blocking drugs for those who have failed to respond to adequate courses of at least two other DMARDs. These must be administered by a consultant rheumatologist.¹²¹

At present, they are expensive. The TNF alpha inhibitors, for example, cost approximately £10,000 per patient per year. However, these year-on-year costs are likely to be offset by keeping patients with rheumatoid arthritis at work and reducing the need for them to claim incapacity benefits.¹²² There is also a reasonable prospect that the need for joint replacement will be reduced. Facilitating continued participation in work and other activities in the community promotes well-being and may contribute to preventing social exclusion. A recent review thus concludes that ‘multiple cost-effectiveness studies have now been performed to suggest that anti-TNF antibodies should be cost-effective’.¹²³

The costs to society and the individual

Many people with rheumatologic conditions experience disabling pain, stiffness and reduced joint function, which have a considerable impact on their quality of life and those of their families.¹²⁴ These conditions can affect other organs, as well as joints, and severe rheumatoid arthritis can shorten life expectancy by six to ten years.¹²⁵

The cost to the NHS and society are also high, as the statistics detailed below demonstrate:

- In 2000 there were 1.9 million GP consultations for inflammatory arthritis and around 46,000 hospital admissions.
- The cost to the NHS of managing rheumatoid arthritis, and complications such as osteoporosis, is an estimated £240 million a year. The total annual cost of treating rheumatoid arthritis alone (including health costs and lost working days) is estimated at £1.3 billion.⁹
- Arthritis and related conditions are the second most common cause of days off work in both men and women.²⁹ In the year April 1999–March 2000, 206 million working days were lost at a cost to the UK economy of £18 billion. Work-related disability is particularly common in rheumatoid arthritis. In 1999/2000, it accounted for 9.4 million lost working days (out of 206 million), equivalent to £833 million in lost production.⁶²

It is thus clear that early diagnosis of these conditions would be very cost-effective, especially if it resulted in people being able to remain in the workforce as long as possible.¹²⁶

Hospital outpatient rheumatology services

The focus for first referral should be on:

- assessment, diagnosis, treatment and continuing care for patients with complex auto-immune rheumatic diseases, such as rheumatoid arthritis, SLE, systemic vasculitis and scleroderma;
- assessment, diagnosis, treatment and continuing care of patients with other major inflammatory diseases, such as crystal-related arthropathies, ankylosing spondylitis, psoriatic arthritis and reactive arthritis;
- metabolic bone diseases, osteoporosis;
- advice on complex diagnostic or management issues of minor inflammatory conditions, or other conditions that fall within the remit of a multidisciplinary Clinical Assessment and Treatment Service (CATS) but fall outside usual management/referral guidelines.

These services will be provided principally at secondary care level, although close collaboration with primary care physicians, nurses and allied health professionals (AHPs) is essential for optimal day-to-day management.

As detailed above, those with inflammatory arthritis (eg rheumatoid arthritis, ankylosing spondylitis, psoriatic arthritis) and complex auto-immune diseases need to be **reviewed regularly**. AHPs and specialist nurses/practitioners thus run monitoring clinics and provide education and support to enhance self-management, some of which are held in community settings.^{127,128} In addition, disease-specific patient education programmes are sometimes provided. Telephone advice line services are used as an educational tool to enhance the individual's ability to manage their condition effectively. Advice lines can be cost-effective and reduce requests for outpatient appointments.^{129,130}

In many circumstances, **osteoporosis services** are managed by rheumatologists on an outpatient basis. They may provide the full complement of diagnostic, treatment and patient support services.

Inpatient or day-case rheumatology services

Inpatient admissions in rheumatology services have reduced significantly over the last five years thanks to the newer biologic therapies. However, many patients continue to be admitted to hospital for treatment for co-morbidities of inflammatory joint disease, largely through other specialist areas such as cardiology, respiratory and oncology.

Some health economies have reviewed current service needs and improved access to day-care facilities to administer the newer therapies that require close assessment and monitoring.⁹ In some areas this has led to a further reduction in inpatient use.

Currently, rheumatology patients require **inpatient** admission for:

- early, severe, destructive newly diagnosed arthritis, where intensive management is required;
- management of acute and poorly controlled exacerbations of the disease, which include intravenous infusions of steroids and multidisciplinary rest and rehabilitation programmes;
- complex disease presentations, or diseases with a high risk of mortality.

In all cases, intensive management, assessment, observation and cross-specialist referrals and investigations may be required.

Currently, rheumatology patients require **day-case** admissions for:

- regular administration of new, targeted therapies requiring intravenous infusions, or training in patient-administered therapies;
- administrations of infusions for controlling ‘flares’ of disease;
- multidisciplinary collaboration in complex cases requiring a range of treatments.

Where home care services are available, it may be possible to carry out some of the above treatments at home.

Patients need to be given all the options on their pathway from the outset and information on why a particular course of management is recommended. Where surgery may be indicated, this is best addressed through a combined clinic with the surgeons, in an environment where patients have the opportunity to participate actively in their treatment plan and where their views about the benefits of any interventions are taken into account.

Specialist commissioning in rheumatology services

As with all services, rheumatology patients with rare or complex conditions are best managed in selected centres where a critical mass of clinical experience can be maintained and high-quality clinical care provided for patients.¹³¹ The services currently commissioned in this way include:

- tertiary referral for complex auto-immune rheumatic disease, complex needs, metabolic bone disease, rare conditions;
- obstetric service – management of pregnancy in the context of auto-immune rheumatic disease;
- the management of rheumatoid cervical myelopathy.

While the arrangements will vary in different locations across the country, a ‘core’ rheumatology service should be provided in all local hospitals, with specialised services being located in fewer centres, with local hospitals referring patients in. All rheumatology services should be part of clinical networks.

Case study

Musculoskeletal services in Norwich

Norwich successfully attracted funding for an eight-bed rheumatology day unit – the first in the UK based within an outpatient department – that has provided facilities for patients requiring specific day-care treatments (intravenous infusions such as biologics and cytotoxic drugs and multiple lower limb joint injections etc). It is highly valued by patients in satisfaction surveys. There has been a reduction in inpatient bed numbers of over 80% in the last 10 years and over 50% in the last 3 years since the service moved to a bigger day unit in the new hospital. It has also played a vital part in the business case for using biologics in Norwich.

5.2 Pain management

Pain management is discussed in Chapter 4. Pain is a common, distressing and sometimes disabling symptom in many musculoskeletal conditions – the estimated number of people experiencing musculoskeletal pain varies from 7 to 16 million.¹⁰⁹ It is crucially important that it is well-managed.

Most pain management services will be based in primary care and CATS. In some circumstances, the pain might be so incapacitating, or caused by conditions (for example acute prolapsed intervertebral disc) that endanger other body functions, that hospital medical or surgical intervention is needed. The hospital-based component of pain control needs to be planned and commissioned as part of an overall pain management pathway.

Many patients have combined problems of severe pain and moderate to severe mental health disturbance as a result of pain. Such patients require a combined medical and psychological approach. Often the pain has become the main problem rather than the condition that may have caused the pain in the first place.

Effective pain management services are multi-professional and are staffed by doctors (often anaesthetists), clinical psychologists, physiotherapists and, increasingly, specialist nurses and occupational therapists. Many pharmacists also have an active input into pain management as part of the wider medicines management agenda. The treatments offered include:

- assessment of complex cases using a biopsychosocial approach to the problem;
- appropriate advice and education to patient, carer and primary care team on rehabilitation and self-management;
- advice on appropriate use of medicines to patient and primary care team;
- psychological treatments for pain such as cognitive therapy, stress reduction;
- injections – diagnostic and therapeutic;
- stimulation analgesia (eg use of a TENS machine, acupuncture, spinal cord stimulation).

Tertiary centres may offer intensive pain management programmes for the more highly distressed and disabled patients and also spinal cord stimulation. This often needs to be combined with specialist rehabilitation.^{109,132}

Pain management services can assist musculoskeletal patients by providing information about their pain and their condition; using psychological techniques, as well as practical strategies, to manage pain and remain active despite pain; and improving their physical function and quality of life, while helping to reduce emotional distress and misplaced fears about the implications of pain. Most of these strategies can be non-pharmacological and can be practically applied by the patient.¹³³ Clear care pathways are required to take people into and out of secondary care services.

An effective pain management team¹³⁴ develops management plans in consultation with patients and their GPs and there is evidence that they are highly effective in reducing the burden on the health service. Despite this, access to appropriate services to manage chronic pain varies greatly from one health economy to another – for example only two-thirds offer individual psychological therapy.

Case study

Chronic musculoskeletal pain service, Rheumatology Centre, Staffordshire

In this service, patients with chronic musculoskeletal pain are referred by all members of the multi-disciplinary musculoskeletal team to one point of contact (the rheumatology nurse consultant), for a 30–60 minute initial appointment. The service uses a cognitive behaviour approach to help patients to cope with their pain. Apart from improving patients physically, psychologically and socially, the service also benefits the health economy by preventing other hospital-based services being used inappropriately. The management plan includes:

- individual education and support
- rationalisation of medication
- a multi-disciplinary pain management programme
- a chronic fatigue management programme
- referral to other members of the multi-disciplinary team (eg physiotherapy, occupational therapy)
- access to community facilities (eg local gyms, expert patient programmes etc)

Outcomes:

- Clinical audit demonstrated 80% improvement in patients' ability to take an active role in their own pain management.
- An improvement in self reported (visual analogue scale) function and fatigue.
- For 53 patients out of 60, there was a fall in the number of different hospital specialties being consulted.

5.3 Rheumatology and pain services for children

Musculoskeletal conditions are the biggest cause of disability in children, accounting for failure to reach educational, social and physical milestones for many of those affected. It is essential that multidisciplinary teams develop expertise to assess the needs of children with musculoskeletal problems as well as those of adults.^{94,135} Service development and commissioning should ensure a detailed review of key documents essential when delivering care to children and adolescents, and care pathways need to be developed, both for caring for children with chronic pain and for managing the transition from paediatric to adult services.^{94,136}

Just as in other care areas, children and their families need:

- timely and accurate diagnosis;
- clear, honest information about the condition and prognosis;
- a management strategy agreed between the patient, their family and the professionals, reflecting the care pathway;
- involvement in decisions about the medicines prescribed for them;
- information about how their medicines work and what side effects they may experience, including specialist support for complex medicines management;
- guidance on the roles of, and links to, other agencies, including education, social services and parent organisations;
- support through the school years and into adolescence, with a transition plan into adult services.

Case study

Children's rheumatology services, Leeds

The Regional Paediatric Rheumatology Service is based in the Clarendon Wing at Leeds General Infirmary. Children and young people up to the age of 18 are referred to it and a system of 'shared care' operates both with paediatricians and adult rheumatologists throughout the Yorkshire region. Specific outpatient clinics are held for children under 12 years, adolescents and those patients requiring more complex biologic therapies.

The multidisciplinary approach to care covers physiotherapy, occupational therapy and specialist nursing, and the team is able to provide home and school visits which offer further advice and education. An educational psychologist and social worker, working within the paediatric team, provide specific support.

Case study

Adolescent pain management programme, Bath

The adolescent chronic pain management programme is based in the Bath Pain Management Unit (www.bath.ac.uk/pain-management) at the Royal National Hospital for Rheumatic Diseases Foundation Trust. Adolescents (aged 11 to 18) are referred by paediatricians and pain clinicians for multidisciplinary assessment. In treatment adolescents and a parent attend a residential three week programme of extensive interdisciplinary rehabilitation aimed at the acceptance of pain, a return to normal function, and lifetime self-management of severe pain and disability.ⁱ

Adolescents undertake daily sessions of physiotherapy, clinical education, occupational therapy and psychology. All are delivered within a cognitive behavioural framework aimed at promoting return to normal function and acceptance of unchangeable limitations. Both parents and adolescents have significant widespread problems caused by the chronic pain that require intensive intervention.ⁱⁱ

In a recent evaluation of the programme,ⁱⁱⁱ it was found that at three months after the programme the children were significantly less distressed, disabled, and anxious, and twice as many children returned to full time school as before the treatment. Parents, who are also involved in the treatment, showed a 30% drop in their parenting stress, bringing them back into the normal range.

i Eccleston C, Connell H, Carmichael N (2006).

Residential treatment settings for adolescent chronic pain management: rationale, development and evidence. In: Finley GA, McGrath PJ, Chambers CT (eds.). *Bringing Pain Relief to Children*. Ottawa, NJ: Humana Press.

ii Eccleston, C & Malleon, PM. (2003) Management of chronic pain in children and adolescents (Editorial). *British Medical Journal*, 326: 1408-1409.

iii Eccleston, C., Malleon, PM., Clinch, J., Connell, H. & Sourbut, C. (2003) Chronic pain in adolescents: Evaluation of a programme of Inter-disciplinary Cognitive Behaviour Therapy (ICBT). *Archives of Disease in Childhood*, 88: 881-885.

5.4 Orthopaedic surgery – current activity and scope

Many patients need surgical intervention, commonly for the alleviation of symptoms of arthritis or the treatment of injuries, but also for the treatment of a range of more complex disorders. This section sets out the current demand for services and the role of orthopaedic surgical services in providing high-quality care.

Musculoskeletal surgical intervention has the ability to restore the injured and disabled to normal or near-normal function in a large number of cases. For example, hip and knee replacements have been shown to be some of the most cost-effective medical interventions in society,^{137,138,139} despite the significant use of resources, making a significant contribution to improving quality of life for individuals.

In some cases, the goals of surgical intervention are more limited and should be seen against a background of more general disability.^{20,140} In these cases, surgical intervention can still be valuable to the individual but requires detailed and careful multidisciplinary assessment that empowers patients to make decisions about their treatments – in line with the principles of the Single Assessment Process for Older People and the Common Assessment Framework.¹⁴

Current activity and trends

The top 25 Health Resource Groupings (HRGs) for 2003/04 account for approximately 75% of the workload in trauma and orthopaedics (T&O). These have been grouped into the 11 descriptive categories shown. See chart A.

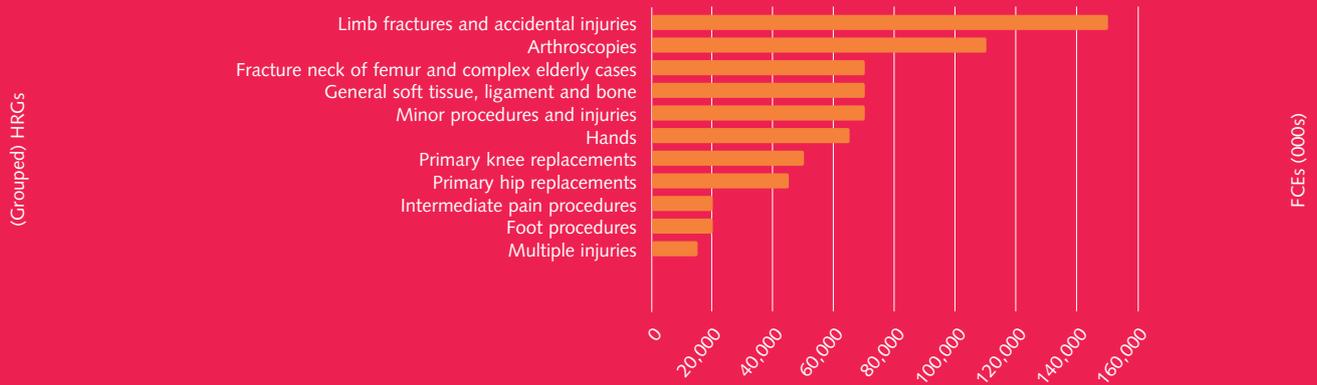
It is important to note that management of traumatic injuries is over 40% of the total workload. Thus, the majority of surgeons providing elective care are likely to spend upwards of a third of their time caring for trauma patients

Chart B illustrates the top elective procedures undertaken in 2003/04, ranked in (grouped) OPCS4 codes. These represent 54% of all elective Finished Consultant Episodes (FCEs) during this period.

In addition, there are conditions of low volume – fewer than 10,000 cases per year – which need to be concentrated in centres to gain critical mass. Some, such as shoulder, elbow and ankle replacement (HO7: 3,078 cases) do not require disproportionately complicated equipment, while others such as scoliosis correction (R18 and R10: 1,618 cases) require heavy investment.

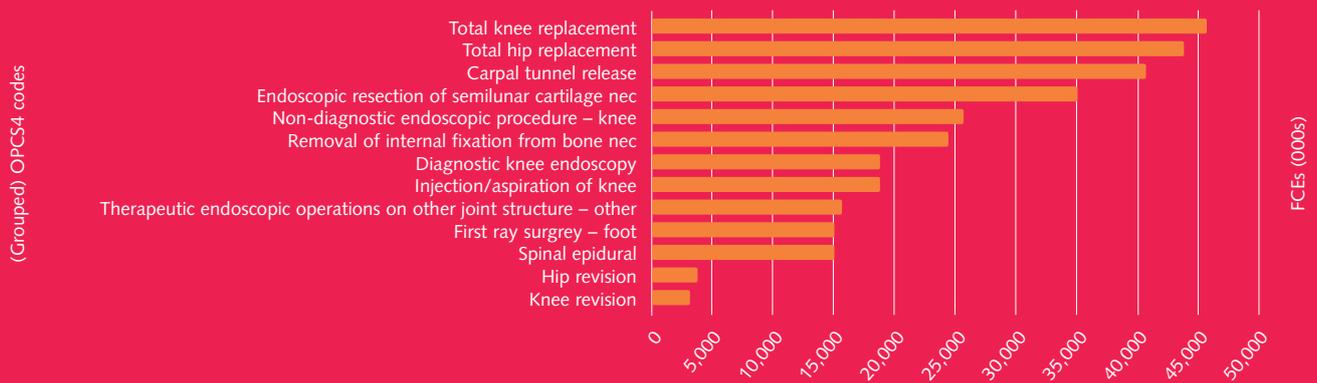
The workload of T&O services has risen over the past decade. Chart C illustrates Hospital Episode Statistics (HES) data for admissions to T&O services between 1989/90 and 2003/04. The trend lines show elective work and emergency work. It should be noted that the overall trauma workload is much higher than indicated as trauma patients are often seen and treated in accident and emergency or outpatients (often by orthopaedic teams) and not admitted, or have multiple injuries and are admitted via other specialties such as neurosurgery.

A. Highest numbers of First Consultant Episodes (FCEs) by Health Resource Groupings (HRGs) (2003/04)



Source: HES, Department of Health

B. Highest numbers of elective FCEs by OPCS4 codes (2003/04)



Source: HES/Inter-Authority Comparisons and Consultancy, University of Birmingham (www.hsmc.bham.ac.uk/iacc)

C. Trend in elective and emergency admissions: T&O (indexed on 1989/90 = 100)



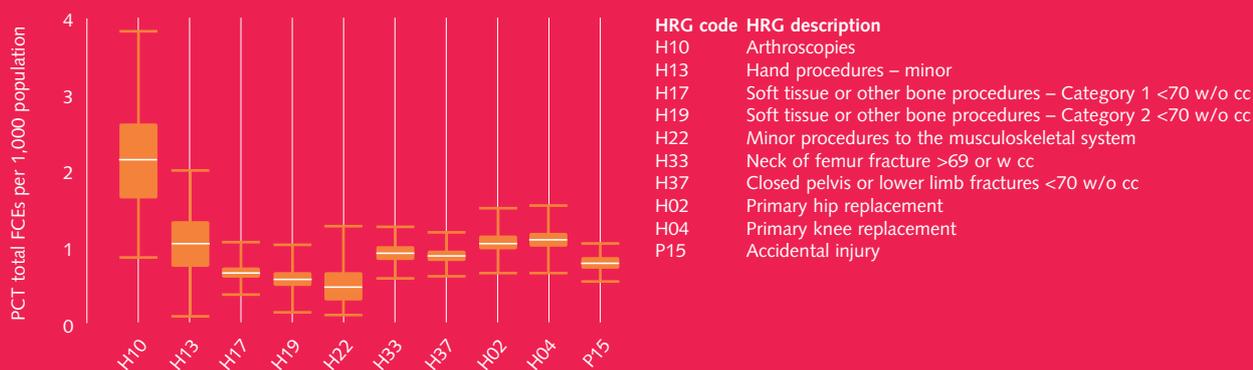
T&O FCEs in English trusts 1989/90 – 2003/04, indexed base year 1989/90=100. Source: HES data.

D. Trends in primary and revision knee replacement rate, 1991–2000, and projections to 2010, by sex



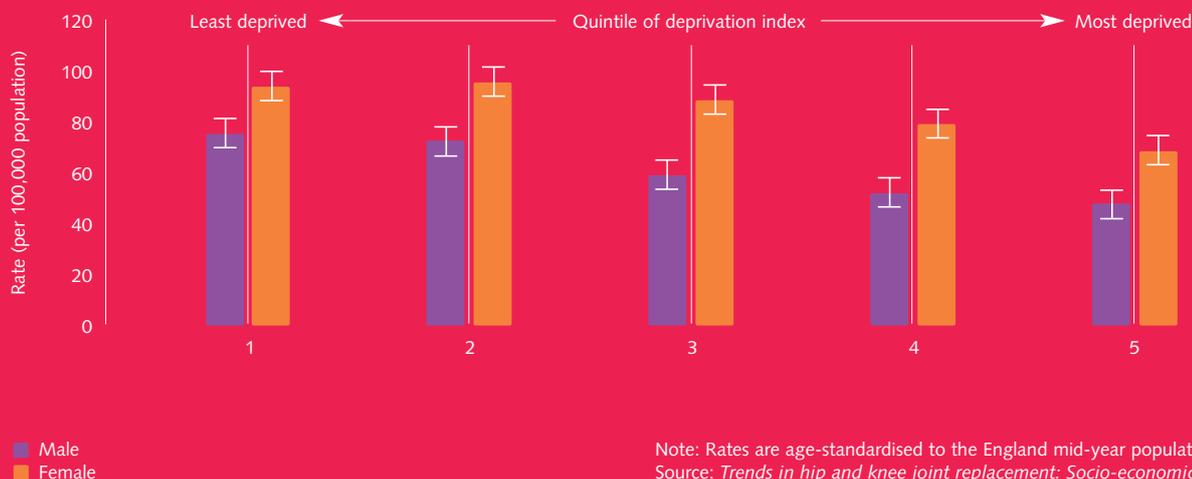
Note: Rates are age-standardised to the 1996 England mid-year population. Source: *Trends in hip and knee joint replacement: Socio-economic inequalities and projections of need*. Tracy Dixon, Mary Shaw, Shah Ebrahim, Paul Dieppe: Department of Social Medicine, University of Bristol.

E. Variation in intervention rates by primary care trust, for a range of procedures



Note: The numbers 69 and 70 and the associated abbreviations relate to age of patients (greater than 69 years, less than 70 years) with (w) or without (w/o) complications (cc).

F. Socio-economic inequalities of access, primary hip replacement rates, 2000, by social class (England)



Note: Rates are age-standardised to the England mid-year population of 1996. Source: *Trends in hip and knee joint replacement: Socio-economic inequalities and projections of need*. Tracy Dixon, Mary Shaw, Shah Ebrahim, Paul Dieppe: Department of Social Medicine, University of Bristol.

Joint replacement surgery in the NHS in England has also increased substantially over the past decade and there has been a marked increase in revision operations. The growth has happened most particularly among those aged 60 years and over. Between 1991 and 2000, the number of primary total hip replacement (THR) operations increased by 18%, while the number of revision THR operations more than doubled. The number of primary total knee replacement (TKR) operations also doubled, and revision TKR increased by 300%. Over the 10-year period, the proportion of THR operation episodes that involved revision operations rose from 8% to 20%.

If current trends continue, there would be almost 51,000 primary hip and 54,000 primary knee operations annually by 2010.⁶⁴ Chart D shows the projections for primary and revision knee replacement to 2010. The figures for primary and revision hip replacement show a similar increase.

Analysis of HES data for 2003/04 demonstrates clearly that intervention rates for a range of conditions and procedures vary widely across the UK.^{24,142} Chart E shows the median intervention rates with the range for a selection of procedures. This analysis is based on age- and sex-standardised populations.

In chart E, the orange vertical line shows the range in intervention rates, by PCT, for each procedure (excluding extreme outlier PCTs). The orange boxes show the 'middle' 50% of PCTs. The horizontal line in the orange box is the median. The diagram shows the wide variation in intervention rates for several conditions. Although not in the diagram, a similar variation occurs in revision hip and knee surgery.

Although it is well recognised that several factors affect the demand for orthopaedic interventions, it is not clear why there is such a wide variation in intervention rates in different PCTs. This is, however, a question which PCTs will want to explore and understand in relation to access and clinical effectiveness.

Inequalities in access to musculoskeletal services

The greater burden of disease in disadvantaged populations leads to higher use of unscheduled NHS care, but there is evidence that the reverse is the case for elective surgical care.^{20,143} Social disparity has been reported for both primary and revision THR and TKR operations, with lower rates among the most disadvantaged, despite equal or greater indications of need.^{38,144,145} Chart F illustrates the point for primary hip replacement surgery.

Another study assessed the impact of surgical waiting times on the outcome of THR, using both public and independent sector data from the National Total Hip Replacement Outcome Study.¹⁴⁰ In both sectors, the more socially disadvantaged the patients, the poorer the scores both before and after the operation.

There are a number of possible explanations for such inequalities.^{146,147} Patient-related factors may lead to delays in presentation, and more deprived patients may be less likely to be referred, or to undergo elective surgery.^{23,144} Surgical and primary care teams, in collaboration with PCT public health teams, can identify local inequalities and unmet needs (health equity audits) by linking hospital episode data to local deprivation data via postcodes. PCTs can also ensure easy access to advice and information for all patients, to enable an understanding of the choices available to them.¹⁴³

The Government has made a commitment to reducing inequalities. This is likely to be achieved as commissioning healthcare becomes more effective and through the implementation of the 18-week patient pathway by the end of 2008.

Children and young people

In 2003/04, children of 0–14 accounted for 76,788 FCEs (8.4% of the total T&O FCEs). Surgical intervention in children under one year is relatively rare, the majority of children of that age being dealt with as outpatients. In the case of older children (1 to 14 years), a high proportion of surgical work relates to trauma (often caused by accidents and sports injuries), but with a small number of congenital, infective or other serious disorders. There are considerably more admissions in the 10–19 age group than the 0–9 and hospitals and commissioners therefore need to consider the particular needs of adolescents using hospital-based musculoskeletal services.

Pain control in children, in both emergency and elective settings, is a crucially important but often underestimated issue. Audited protocols for the assessment and management of acute pain need to be in place in every children's unit.

Many hospital orthopaedic services for children are currently facing difficulties in providing surgeons and anaesthetists with paediatric expertise. A recent Department of Health (DH) consultation publication *The critically sick or injured child in the District General Hospital: A team response*,¹⁴⁸ reviews these issues including a focus on orthopaedic and trauma services. Several solutions are proposed to ameliorate the situation which PCTs should note. Specifically, it is widely agreed that children's orthopaedic services should be delivered in a 'hub and spoke' fashion with more straightforward conditions managed in a local district general hospital and more complex work concentrated in specialist centres.

Trauma

As detailed above, approximately 40% of all the work of T&O departments relates to emergency admissions of people of all ages for treatment of traumatic injury. Older people are particularly at risk of injury as a result of reduced bone mass, reduced fitness and unsafe homes. Of patients admitted as emergencies who had hip operations in 2003/04, usually as a result of falls, 97% were 60 or over, and 60% were 80 or older.¹⁴⁰ As the population ages, the incidence of fragility fractures is certain to rise, together with the severity of co-morbidities complicating surgical management. In order to prevent these trends from overwhelming surgical musculoskeletal services, a decisive shift in care provision is required. Thus, while health economies continue to work to reduce access times for elective surgery,^{149,150} consideration of, and indeed investment in, trauma services is also required.
151,152,153,154

An understanding of the following issues is necessary to design a high-quality, patient-focused service¹⁵⁵ that is fit for purpose into the future:

- Early expert management of trauma patients reduces the level of later disability with its consequences for the patient and related costs.¹¹
- Inpatient management of injuries such as hip fractures requires close teamwork between orthopaedic surgery and geriatric medicine, since these are often frail people with considerable medical co-morbidity and thus complex rehabilitation requirements. PCTs need to assess the future requirement for orthopaedic care of the elderly consultants, physiotherapists and occupational therapists specialising in the care of elderly fracture patients.¹⁵² Investment here can pay great dividends in reducing the stay in hospital of such patients and in improving outcomes.
- Having one fragility fracture is a strong predictor of having another. Thus, elderly fracture patients need advice on how to prevent further fractures, including assessing and treating both the tendency to fall and the underlying cause of bone fragility – osteoporosis. It is equally important that the cause of the fall is identified and that appropriate action is taken to ensure that a similar accident does not recur (which could involve liaison with community equipment services or housing adaptation services). These patients constitute the most cost-effective group to treat in terms of fractures prevented but this does require a highly focused approach linking the surgical services with other essential services such as metabolic bone disease units, for example through a fracture liaison service.¹⁵³ This would include links to local specialist fall prevention teams (see Chapter 4).
- Hip fracture is the commonest and most life-threatening fragility fracture. Good evidence-based guidelines exist for the prevention and management of hip fracture in older people.¹⁵⁴ However, ensuring their widespread adoption is a demanding test of integrated systems because of the complexity of the patient care pathway. This is an important area for clinical audit in hospital settings. The Scottish Hip Fracture Audit¹⁵⁶ and the Trauma Audit and Research Network (TARN)¹⁵⁷ has shown that this approach can change practice and raise standards.

In reviewing trauma services,^{158,159,160,161} health economies need to ensure that they have considered and addressed all of the areas on the checklist below:

Checklist for reviewing trauma services

Engaging the right people

- Securing full engagement of both managers and clinicians at all levels.
- Ensuring multi-agency collaboration across the health economy.

Ensuring an effective multidisciplinary team is in place

- Full integration with geriatric services (see below).

Building a shared understanding of the work to be done and the resources required

- Using principles of capacity and demand to understand the work that needs to be done, especially for older people with fragility fractures.

Ensuring that the right systems and processes are in place to support care

- Use of a single, multidisciplinary framework for assessing needs of individuals and sharing information.
- Fast-tracking patients with obvious fractured neck of femur by admitting straight to the ward following full clinical assessment by a senior clinician.
- Ensuring sufficient dedicated trauma sessions in main theatre to manage demand for service each day – including at weekends.
- Employing trauma co-ordinators to ensure that all the arrangements are in place so that every patient has their surgery within a maximum period of 24 hours from admission.

In trauma, sub-specialisation has developed. Better outcomes are likely in networks where caseloads above a critical mass are maintained in local centres for common injuries and in referral centres for rarer or more complex injuries. Such centres also tend to have greater expertise in caring for patients with multiple injuries.

Elective surgery

Elective orthopaedic surgery is carried out on a planned basis, either as day or inpatient activity or sometimes in the outpatient setting. The majority of this work takes place in the acute hospital setting and under the direct care of an orthopaedic surgical team headed by a consultant. Increasingly, there is a move towards performing certain procedures in other settings such as health centres in primary care (see Chapters 3 and 4).

Each acute hospital trust providing local T&O services should have the necessary medical, support staffing and infrastructure to deal effectively, safely and quickly with the caseload their population presents,^{73,74} with the exception of conditions falling within the specialised services definition set.¹⁶²

Many modern orthopaedic units also deliver a range of specialised services, usually aligned to areas of the body (eg shoulder, hand, spine) but sometimes focused on specific pathologies such as inflammatory arthritis. Patients with rarer or complex conditions are best managed in selected centres where a critical mass of clinical experience can be maintained and high-quality clinical care provided for patients. All complex musculoskeletal services are best provided by multi-disciplinary teams working in a network, both within the NHS and in the independent sector.

5.5 Orthopaedic surgery – commissioning and delivering improved services

Section 5.4 above seeks to set out the current scope of hospital-based orthopaedic services in the NHS and describes examples of best practice in delivering these services. This section focuses on improving hospital-based orthopaedic services through improved commissioning and better support to service providers, particularly in relation to meeting the 2008 waiting time targets.

Commissioning of T&O services

A detailed assessment of the true need for T&O services is required in each health economy to ensure a balanced provision of services which avoids inappropriate use of resources and areas of need being deprived of resources. Health economies will need to map their services to understand existing patterns of service delivery and the strengths and weaknesses of this,¹⁶³ including:

- staff recruitment;
- existing capacity;
- current volumes of work (including sub-specialty);
- current referral patterns and existing clinical networks. (Training of orthopaedic surgeons in sub-specialty skills is easier where there are well-developed sub-specialty networks.)

Planning for the future adds a further challenge, requiring active management by commissioners and others, to ensure that capacity, choice and workforce planning is aligned to patients' requirements and that the impact of an ageing population is recognised.

Commissioners will also want to ensure that the sub-specialties defined in the national definition set as 'specialised services'^{131,162,164,165} are commissioned appropriately through the 26 local specialist commissioning groups (services for populations of 1–2 million people) and the 8 specialist commissioning groups (services for populations of 3–6 million). Services defined as 'specialised' include:

Elective:

- surgery for spinal deformity, tumours of the spinal column, management of difficult back pain and instability, and spinal infections;
- complex paediatric disorders;
- pelvic osteotomy;
- major limb deformities;
- tumours;
- a range of site-specific procedures;
- revision arthroplasty;
- some non-operative treatments.

Emergency/trauma:

- surgical stabilisation of the injured spine;
- emergency treatment of metastatic disease;
- site-specific trauma.

These services require specialist orthopaedic surgical and other expertise, and in most instances are dependent on other specialties (eg neurosurgery, maxillofacial surgery) which provide for the population of a number of PCTs within one or more strategic health authorities (SHAs).

Certain highly specialised services, with only two or three specialist centres covering the whole country, are currently commissioned on a national basis by the National Specialist Commissioning Advisory Group (NSCAG), eg services for the treatment of primary malignant bone tumours. Commissioners need to ensure that all such designated services are part of the national process.

In addition to these nationally specified specialist services, there are many relatively specialist procedures carried out in providers across the NHS. A recent report from Dr Foster (commissioned by DH) showed that a significant amount of this specialist orthopaedic activity takes place in hospitals that carry out such procedures relatively infrequently.¹⁶⁶ This is particularly true of hip and knee revision surgery and shoulder and elbow replacement surgery. In summary, this report demonstrates that:

- most revision knee operations in England take place in hospitals doing 14 operations a year or less;
- one-third of shoulder replacement operations take place in hospitals doing fewer than one operation a month and one-quarter of revision hip replacement operations take place in hospitals doing fewer than two a month;
- most surgeons agree that higher volumes of activity lead to improved outcomes and efficiency but there is little agreement about 'adequate' levels;
- many patients have orthopaedic operations in hospitals that perform the operation in question infrequently, even though they live equally close to a hospital that performs the operation frequently;
- waiting times for hospitals performing high volumes of hip and knee revision operations, shoulder replacement and spinal surgery are, on average, shorter than those for hospitals performing low volumes of the same procedures.

Commissioners will need to consider the issues raised by this report when planning for the provision of this type of surgery.

Waiting times in T&O

Service capacity has lagged behind demand in T&O services in the UK. Levels of service are currently being increased through the NHS and the independent sector and, by 2008, independent sector providers will carry out up to 15% of elective procedures on NHS patients, the remaining majority of patients being treated in NHS trusts. Careful planning and commissioning of services from this range of providers will need to take account of several factors – such as case mix, high-cost/low-volume procedures, and trauma workload – to ensure that services meet the needs of the local population; are deliverable by the clinical workforce; and fulfil necessary training responsibilities.

Waiting times have been a particularly recalcitrant problem for orthopaedic services with by far the largest number of patients waiting for more than six months. The National Orthopaedic Project (NOP) was established to tackle this problem via an integrated national strategy. As a result of this and the enormous efforts within health economies, the NHS achieved the target of no one waiting longer than six months for an operation by December 2005. Even with extra capacity, shorter waiting times and improved services in primary care, health economies will still have to plan carefully to deliver timely trauma and elective services for their patients. They need to:

- understand the demography and needs of their catchment population;
- understand the volume of work (both overall and subspecialty) that needs to be carried out, whether as elective or emergency care;¹⁶⁷
- consider examining trauma and elective services to find ways to minimise bed conflicts and surgical cancellations;
- ensure sustainability of trauma services when elective work is commissioned from the independent sector;
- agree overall clinical governance systems and processes to ensure high-quality service and patient safety – including explicit quality standards and audit processes;
- have processes in place to identify any unintended consequences of one service change on another.

Matching demand and capacity to improve services

There has been a steady growth in demand for orthopaedic treatment over the last 20 years, related to a number of factors. The effect of demography has already been discussed, but other factors are important, such as developments in technology that allow units to operate on frailer patients and the drive to shorten waiting times.

It is likely that this increase will continue but it can be difficult to predict with certainty. PCTs and trusts may find local intervention rates benchmarked against national data suitably weighted for age and socio-economic factors a useful starting point, provided cross-boundary flows and tertiary referrals are taken into account.

In terms of capacity, while it is possible to achieve some improvements within existing resources through service improvement measures, such as all-day operating lists, it is clear from the NOP that additional capacity is needed. In terms of consultant staff, international comparisons suggest that Britain has relatively low numbers of consultants. The British Orthopaedic Association argues the need for at least one consultant per 25,000 population (still one of the lowest levels in Europe)¹⁶⁸ compared with the current level of one per 41,300, with the need for existing consultants to spend time on teaching, audit, clinical governance and management exacerbating this shortage.

There are no national data available concerning optimal levels of clinic and theatre activity per consultant and local circumstances (such as varying case-mix complexity and the split between trauma and elective work) which clearly impact on an individual's job plan.^{169,170,171} Modelling is, therefore, crucial in order to gain a fuller understanding of this issue. It has formed an important part of the work of the NOP Tailored Support Programme, quantifying the gap between demand and capacity within a health economy and considering different changes to meet predicted demand.

The work of the NHS Modernisation Agency¹³ and the NOP¹⁴⁹ shows that organisations which have succeeded in improving patient care have a better understanding of:

- the demand for their service;
- local capacity needed to manage this demand;
- the importance of engaging the right people in developing local plans for delivery;
- the basic supporting systems that should be in place.

Improving elective care

The following information on improving services is based upon the work of over 35 Tailored Support Programmes working across 20 SHAs:

Acknowledgment and ownership

- Considering the creation of a joint PCT/Trust/SHA strategy to deliver and sustain core service standards and a framework for continuous improvement, as a component of the Musculoskeletal Services Framework for the health economy.

Management and clinical engagement

- Making orthopaedic surgery a priority, improving leadership and involving clinicians in decision-making and delivery from the start.

Capacity and demand measurement

- Understanding current and future capacity and demand measurement.

Securing capacity and managing demand

- Commissioning sufficient capacity and expertise, and creating alternative patient pathways to maximise use of primary care.

Organisation and communications

- Improving relationships within and across organisations.
- Empowering staff to implement change.

Making the best use of facilities available

- Only listing patients who want, need and are ready for surgery.
- Making day surgery the treatment of choice wherever possible.

Performance management

- Weekly performance management against agreed targets.

Case study

Cornwall local health economy

In Cornwall, the Tailored Support Team provided assistance in establishing a weekly health economy forum focused exclusively on orthopaedics, for clinical, managerial and operational colleagues from across the acute trust, PCTs and the SHA. This ensured the development of strong working relationships within the health economy and ensured that there was a strong clinical input to planning and decision-making.

The acute trust is also piloting a scheme to reduce the hospital length of stay for primary hip replacement to allow patients to make a faster recovery in their own home and enabling the trust to treat more patients.

Outcomes:

- Inpatient and outpatient waiting targets achieved in 2005/06.
- Waiting list policy revised and systems streamlined with support of consultants.
- Theatre utilisation up to 96% on both hospital sites.
- 'Length of stay' project spearheaded revised ways of working, which enabled more patients to undergo surgery.
- High patient satisfaction – 'entirely happy and completely satisfied with all the care and help I received from my orthopaedic surgeon, and all the staff at St Michael's Hospital.' (patient, Royal Cornwall Hospitals NHS Trust).
- Joint working supported one GP surgery to undertake carpal tunnel decompression surgery in primary care.

Improving discharge and follow-up

Hospital stays are becoming shorter. In order to maintain quality of care, it is important that all involved in the **discharge** process, including the primary care team, agree protocols that support timely discharge.

Underpinned by excellent communication across the team, discharge planning should begin before admission and protocols should include the following:

- information to patients and their carers on expected length of stay, whether admitted for elective care or as an emergency;¹⁷²
- detailed information about the discharge process in the treatment plan;
- full assessment of social and support needs of patients and carers in line with the principles of the Single Assessment Process and the Common Assessment Framework, so that these can be met without delay upon discharge;
- provision of information, equipment and orthoses to maximise independence.

Following discharge, there should be an agreed process to ensure continued rehabilitation when needed, along with effective **follow-up** arrangements that identify and deal with complications, including late complications. Long-term follow-up arrangements may not need to be organised around traditional outpatient clinic visits: virtual clinics based on patient questionnaire and X-ray have been successfully implemented in some areas. A good discharge plan includes follow-up arrangements, information about signs and symptoms to look out for following discharge and what to expect at each stage of the recovery process. Information about entitlements to benefits and eligibility for social care services, as well as less formal sources of support (such as services provided by the voluntary sector) is important where individuals are likely to have an ongoing need for support or to be off work for an extended period of time.

Good discharge planning and clear follow-up arrangements will not only improve service efficiency by reducing unnecessarily long hospital stays but will greatly benefit patients.

Case study

Discharge and follow-up: Orthopaedic Home Treatment Team, New Forest Primary Care Trust

The Orthopaedic Home Treatment Team – set up in January 2002 – provides supported discharge to patients of 55 and over undergoing elective hip or knee replacement surgery, and makes pre-operative visits to assess equipment and care needs. The team includes orthopaedic and rehabilitation nurses; physiotherapist; occupational therapist; and rehabilitation assistants. The team enables patients to be discharged with rehabilitation, equipment and support as soon as they are medically fit, minimising length of stay in hospital. It aims to reduce post-operative complications by rapid identification and treatment.

Outcomes:

- In 2003, 49 referrals out of 237 (20%) were found on pre-assessment to be inappropriate/unfit for surgery
- Only four patients (0.9%) were readmitted (due to wound infection/haemorrhage or deep vein thrombosis)
- Patients were discharged on average on day four or five after their operation. Previously, patients were discharged between 7 and 10 days after surgery
- Patient satisfaction responses were favourable in a patient satisfaction survey
- Follow-up telephone calls showed that patients had had relatively few problems when their support from the team was over.

5.6 Supportive, palliative and end-of-life care

In certain long-term conditions, and where there is a high risk of death, patients may need specialised palliative care. Supportive and palliative care services promote physical, psycho social and spiritual well-being and emphasise quality of life and good control of pain and other symptoms. They also support a patient's family and carers at the time of death and in bereavement. The benchmark of supportive and palliative care services is set out in the National Institute for Health and Clinical Excellence (NICE) guidelines on supportive and palliative care for adults with cancer.¹⁷³ While this guidance is orientated towards cancer, many of the principles apply to people with certain musculoskeletal conditions. Ministers have asked the National Cancer Director, with support from the National Director for Older People, to prepare a comprehensive strategy to develop and progress end of life care for all adult patients, building on that outlined in the White Paper *'Our health, our care, our say'*. Ministers have asked for a report in the autumn of 2006. For children's palliative care, there is often a need for much longer term provision and the care pathway can be complex. DH has produced *Commissioning children's and young people's palliative care services* (2005), which sets out good practice points including the need for partnerships between the child, young person, family, carers and professionals to meet needs in an individualised and flexible way; a commitment to delivering care where the child; young person and family want; and the provision of information and advice about services such as play, leisure, childcare and transport.¹⁷⁴

Good practice action points

Information

- Ensure that the mapping of patient flow includes referrals between service providers (eg consultant to consultant; secondary to tertiary).
- Ensure an understanding of the content of waiting lists among all stakeholders in primary and secondary care.
- Ensure participation in audits of the process of care across the whole pathway.
- Agree with stakeholders the information provided to GPs and others in the primary care team about patients upon discharge from hospital.

Organisation of services

- Tailor services and national guidance/guidelines (such as NICE) to local needs.
- Tailor services to meet the specific needs of children and young people.
- Plan education and training with the identified clinical champion.
- Ensure and support the participation of secondary care stakeholders in the planning process for the implementation of the Musculoskeletal Services Framework.
- Plan with stakeholders to review, and improve if necessary, capacity and infrastructure within secondary care.
- As a component of the work of the health economy on musculoskeletal services, review the provision of sub-specialty expertise, noting evidence on the link between volume and outcomes.

Surgery

- With the involvement of clinicians, use HES data to map activity and flows of referrals, to identify optimum use of NHS and independent facilities, and to identify low-volume providers
- As a component of the work of the health economy on musculoskeletal services, provide trauma and orthopaedic services which are based on the needs of all sectors of the local population, including all ethnic groups and the socially disadvantaged, and the need to provide specialist services for a wider population.
- Ensure defined specialised services are commissioned through specialist commissioning groups.
- Ensure that there is a full understanding of patient outcomes across the health economy.

Chapter 6

Making the changes



A series of interlinked policies supports NHS reform and ways of working, some of which are set out in Chapter 2. The overall aim of the reform agenda is to ensure that the NHS offers high-quality care, led by the needs and wishes of today's patients. The Musculoskeletal Services Framework (MSF) is part of this reform programme.¹⁷⁵

There are key changes that health economies will need to make in order to improve the care of people with musculoskeletal conditions and reduce waits and delays to deliver the 18-week patient pathway by December 2008. Commissioners will lead much of the change. It is, however, imperative that the process involves all key stakeholders across the whole health and social care system, including patients and their families: it is only possible to deliver change through **wide engagement**.¹⁷⁶

The **basic delivery cycle** for the NHS consists of:

- population needs assessment (covering children, young people and adults);¹⁷⁷
- identifying priorities and standards;
- planning services;
- commissioning services to meet assessed needs;
- managing performance and auditing, assessing and inspecting outcomes.^{178,179,180,181}

These stages form a continuous cycle of improvement. Local health economies may wish to use this as the basis for implementing recommendations contained in the MSF, covering all aspects of musculoskeletal care, from self care through to specialist care for adults and children, in each health economy. Further detail on the actions needed at each stage of the cycle can be found in the accompanying delivery guide.

As stated above, effective partnership working is central to successful implementation of the MSF. A key action for health economies in implementing the Framework is therefore to specify and agree **care pathways** with all partners that move from **prevention and self-care through to hospital care** and ensure that the use of primary and secondary care is appropriate to patients' needs. Alternative pathways will enable primary care trusts (PCTs) to diversify the range of services offered locally. Specifically, PCTs need to develop care pathways that successfully work at the 'interface' between primary and secondary care and it is therefore recommended that all health economies explore the opportunities for creating a **Clinical Assessment and Treatment Service (CATS)** working at this 'interface', so that the pathway into and out of secondary care is as seamless as possible.

It is important that the pathways include detailed and agreed clinical audit measures, set within a wider governance framework and, again, suggested measures and the delivery guide details resources to help develop a robust governance framework.

Lastly, the publication of this Framework comes at a time when the NHS is undergoing a revolution in terms of **information management**, through the NHS Connecting for Health⁴⁶ (www.connectingforhealth.nhs.uk) national programme. It is envisaged that eventually all patients' records will be held on computer and made accessible to health professionals and carers as well as patients themselves. The same technology is being harnessed to provide the same people with the best and most up-to-date knowledge and expertise to provide healthcare. This includes a specialist library for musculoskeletal disorders (www.library.nhs.uk/musculoskeletal) within the National Library for Health. Health economies will wish to access this information and will need to develop comprehensive information for patients to support service change.

Information to support commissioning and implementation

As commissioners will lead the change process, an accompanying document has been prepared – *Delivering improved musculoskeletal services: An implementation guide to the Musculoskeletal Services Framework*. This will be published shortly.

To raise awareness and assist in the engagement of stakeholders, a two-page briefing is also available – *Musculoskeletal Services Framework: Briefing for health economies*. This will be published shortly.

A booklet for patients has been prepared to explain the changes – *Getting the most from your local health services: Information for people with musculoskeletal conditions*. This will be published shortly.

Further information is provided in *Implementing the Musculoskeletal Services Framework: A guide to websites and other resources*. This will be published shortly.

Annex

Roles of health and social care staff

Introduction

The following paragraphs describe the roles of a range of staff in the regulated health professions and social care, who may be involved, directly or indirectly, in the care of people with musculoskeletal symptoms or conditions, in settings outside hospital. The list is not exhaustive.

While traditional roles remain the keystone of the service, professionals have now become freer to develop extended and/or specialist roles, with the potential for imaginative reshaping of more responsive and flexible services, providing easier access in a wider variety of settings. Many are able to accept self-referrals and run their own caseloads. They refer patients to other professionals when necessary and will themselves receive referrals from others.

The contacts with professionals can be first contacts for new conditions, many of which will resolve in time, or they can be part of the patient's continuing journey in dealing with more chronic or complex conditions. Traditional and newer roles are described.

Numbers of professionals are given, as:

- workforce headcount numbers for qualified staff employed by the NHS in England, from the Department of Health census, as at September 2004 (labelled 'NHS 2004');
- numbers registered in the UK with the appropriate regulatory body (labelled 'registered' with date);
- other specified sources.

Roles of individual professions are outlined below in alphabetical order.

Allied health professionals

The term Allied Health Professional (AHP) covers thirteen different professional groups. Several of these groups play a central role in the delivery of musculoskeletal services: physiotherapists, podiatrists, orthotists and prosthetists, occupational therapists and diagnostic radiographers. The role of paramedics is discussed under 'Ambulance service professionals'.

All AHPs described in this section are able to accept self-referrals directly, and refer onward as necessary. At present the services which accept self-referrals from patients are not widespread and often at a pilot stage. Most patients are likely to still access AHPs via the traditional route of GP or other clinician referral.

The core services AHPs provide vary with profession but all include the following:

- Information, education, treatment and support
- Technical skills
- First contact services possible
- Integrated care across primary and secondary services
- Referral to other professionals
- Promotion of the expert patient programme.

Prescribing, supply and administration of medicines by AHPs

All the professions above are able to use Patient Group Direction (PGDs). In addition chiropodists/podiatrists, physiotherapists and radiographers are able to act as supplementary prescribers.

Further details can be found in: *Medicines Matters: A guide to current mechanisms for the prescribing, supply and administration of medicines* which is available on the DH website www.dh.gov.uk/nonmedicalprescribing

AHPs can develop their core skills in several ways:

- **AHP with Special Interest (AHPwSI):** This term is used to denote an AHP working in an expanded role within a primary care or community setting. The term is equivalent to GPs and Nurses with Special Interests who undertake care within the community. AHPwSI does not relate to a specific grade or speciality. It could range from junior staff to AHP consultants and extended scope practitioners. The key to AHPwSI is that the need to redesign services in order to improve access for patients along with the service they receive drive the creation of these posts – see www.dh.gov.uk/pricare/gp-specialinterests/ahpwsipdf

- **Advanced Practitioners:** Experienced clinical professionals who have developed their skills and theoretical knowledge to a high standard and who make high level clinical decisions and carry their own caseload.
- **Consultant AHP:** These posts make a difference to the delivery of care in the NHS, helping primary care trusts deliver on Access Targets, sharing good practice, advancing the research agenda and extending and enhancing the quality of patient care. They deliver:
 - Better outcomes, improved accessibility and service quality for patients
 - New career opportunities to help retain experienced practitioners
 - An advanced clinical contribution and strengthened professional leadership

It is important that PCTs fully understand AHP and nursing roles, whether core, extended or advanced so that the skills, competencies and knowledge can be fully utilised to meet the needs of people with musculoskeletal conditions.

- **Extended Scope Practitioners:** Experienced clinical professionals who have developed their skills and knowledge in a defined area who are working beyond the usual scope of practice for the specific profession including undertaking tasks previously undertaken by other healthcare professionals. This is within a clinical governance framework.

Occupational therapists

Occupational therapists work across health and social care to promote independence among people with musculoskeletal conditions. They:

- Assess, treat and provide information and equipment to assist a person's ability to perform daily tasks and valued life roles
- Facilitate successful adaptation to aid occupational independence for the patient
- Promote functional independence
- Provide psychological support in adapting to impairment, dysfunction or disability.

Occupational therapists may help to smooth patient discharge from hospital given their unique role at the interface between health and social care.

Orthotists and Prosthetists

Orthotists design and fit orthoses (braces etc), which provide support to part of a patient's body to compensate for paralysed muscles, provide relief from pain or prevent physical deformities from progressing. Around 75% of patients attending an orthotic service in secondary care have a chronic condition and are there for re-provision or follow-up. Only around 25% are acute or new patients. Primary care can provide much of this service. There is scope to redesign these services in many areas so that this essential support for musculoskeletal problems is delivered closer to home.

At present, many of the orthotic services in secondary care do not accept patients via GP direct access, so re-provision is via consultant referral. It is possible for patients to self-refer and/or be referred to these services by other professionals. Given the long-term needs of many patients, this is especially useful.

Prosthetists provide care and advice on rehabilitation for patients who have lost or who were born without a limb, fitting the best possible artificial replacement. They work alongside doctors, nurses, physiotherapists and occupational therapists to give the people under their care the best possible rehabilitation.

Paramedics – see under Ambulance Staff

Physiotherapists

Physiotherapists are concerned with human function and movement and help people to achieve their full physical potential. They use physical approaches to promote, maintain and restore wellbeing. To meet the 'proficiency standards' specific to physiotherapy and necessary for registration with the Health Professions Council, a physiotherapist must understand (among other things):

- Normal human anatomy and physiology, especially the dynamic relationships of human structure and function and the neuromuscular, musculoskeletal, cardiovascular and respiratory systems.
- How the application of physiotherapy can result in physiological and structural change.
- The principles and theories from physics, biomechanics, applied exercise science and ergonomics that can be applied to physiotherapy.
- The means by which the physical sciences can inform the understanding and analysis of movement and function.
- The specific contribution that physiotherapy can potentially make to enhancing individuals' functional ability, together with the evidence base for this.
- The application of appropriate moving and handling techniques.

Thus, the newly qualified physiotherapist is already equipped with specialist knowledge and skills directly applicable to people with musculoskeletal conditions. Physiotherapists qualify as first-contact practitioners, able to assess, diagnose and treat a patient without the need for a referral. Their training beyond simply the musculoskeletal field means that they are well placed to work as first-contact practitioners but then also to provide specialist, advanced practice in the musculoskeletal field.

Podiatrists/Chiropodists

Podiatrists assess, diagnose and treat foot and ankle pathologies – to maintain and enhance locomotion function of the feet and legs, to alleviate pain, and to reduce the impact of disability. Podiatry is a front-line therapeutic service, both in independent practice and in multidisciplinary care teams in the NHS. Podiatrists are taking an important leadership role in many areas in developing services for people with musculoskeletal problems. Specialist roles are developing within podiatry – for example in biomechanics/musculoskeletal care, surgical podiatry in the foot and rheumatology.

Podiatrists can be of great assistance in the management of low back pain and hip and knee problems, utilising biomechanics – the assessment of the function of human motion. Podiatric biomechanics utilises a range of assessment techniques with a defined focus on the lower limbs during activities such as walking which helps to ensure appropriate and effective treatment. This treatment may include specific exercises, the prescription of corrective insoles or orthoses, and advice, especially when related to child development and rheumatological diseases. Biomechanics is also used in the pre and post-surgical assessment of orthopaedic patients, providing information to help with the selection of an appropriate surgical procedure and treating mechanical back pain.

Most podiatrists are qualified to undertake nail and soft tissue surgery and can administer local anaesthetics. More complicated procedures are performed by surgical podiatrists, usually as a day case procedure under local anaesthesia. Pre-registration training includes pharmacology, regional anaesthetic techniques and radiographic interpretation. Employment of such specialist podiatrists can reduce the work of orthopaedic surgical teams. They can be supplementary prescribers on completion of the appropriate training.

Radiographers (Diagnostic)

Diagnostic radiographers produce high-quality images on film and other recording media, using all kinds of radiation. Virtually all people with musculoskeletal conditions will need X-rays, MRI investigations and other radiographic investigations. Like other AHPs, diagnostic radiographers have opportunities to take on extended or specialised roles. Consultant radiographer posts exist in some health economies and Diagnostic Radiographers are included in the supplementary prescribing arrangements.

Ambulance service staff

A high proportion of 999 calls relate to musculoskeletal conditions, often traumatic in origin. Such patients are either seen in the community by ambulance service staff; seen and referred by ambulance services; or treated and conveyed by ambulance services so that they arrive at the appropriate site.

Paramedics (NHS England: 7,536 – 0904; registered UK: 11,715 – 0705)

Working in the ambulance services are registered AHPs with increasingly autonomous practice. Recent changes have resulted in the introduction of emergency care practitioners working in the community. When a 999 call is identified as not requiring a traditional ambulance or paramedic response, many services can now dispatch a practitioner who will assess, treat and discharge or refer onward, as appropriate. This could well apply to patients with acute episodes of chronic joint/back pain, mobility problems etc. In the future, onward referral to a musculoskeletal interface service would be a very good alternative to accident and emergency.

Chiropractors and osteopaths

Chiropractors (registered England: 1,905 – 0905)

Chiropractors are regulated by the General Chiropractic Council (GCC). They are trained, through a four-year honours degree, in the diagnosis, treatment and prevention of certain mechanical disorders of the musculoskeletal system and their effects on general health. It is a criminal offence to describe oneself as a chiropractor in the UK unless registered with the GCC.

The profession is relatively small but numbers are increasing. Chiropractors work mostly in private practice, (with patients self-referring, or being referred by GPs) but there are examples of chiropractic care being commissioned by PCTs. They provide evidence-based, timely and effective assessment, diagnosis and management of the certain musculoskeletal disorders. There is an emphasis on manual treatments including spinal manipulation or adjustment and on physical and psychosocial rehabilitation.

Osteopaths (registered England: 3,175 - 0905)

Osteopaths specialise in the diagnosis, treatment, prevention and rehabilitation of certain musculoskeletal conditions, including offering guidance on diet, lifestyle and exercise. A four to five-year degree programme is underpinned by extensive clinical training. By law, osteopaths must be registered by the General Osteopathic Council (GOsC) which has a statutory duty to regulate, develop and promote the practice of osteopathy in the UK.

Although most osteopaths work in private practice, there are numerous examples of NHS commissioning for osteopathy across the UK.

Clinical psychologists

Clinical psychology aims to reduce psychological distress and to enhance and promote psychological well-being. They work in a wide range of health settings, ensuring that the mental as well as physical health needs of patients are addressed. Their role, as part of the multi-disciplinary team in a CATS, is of particular value in providing a bio psychosocial approach to the care of patients.

Clinical psychologists may use a variety of methods including psychometric tests, interviews and direct observation of behaviour to assess patients. Assessment may lead to therapy, counselling or advice.

General practitioners

(NHS England: 32,194 GPs – 03 05, excluding specialist registrars)

GPs have traditionally been the direct route into the NHS for patients needing clinical advice and the gatekeepers for other services. These important roles are likely to continue but are now complemented by an increasing range of other healthcare professionals who can offer direct access to people with musculoskeletal conditions.

GPs know their patients as individuals, their families, their backgrounds and their response to illness. They are well placed to provide continuity of care for patients with long-term conditions. Most GPs now work in group practices. This can allow them to develop different areas of expertise within a collective. Many group practices will have one partner who has an interest in musculoskeletal problems.¹⁸⁸

It has been recognised that undergraduate and postgraduate training in musculoskeletal disease for GP registrars has been variable in quantity and quality. Many GPs choose to improve their musculoskeletal knowledge and skills while in practice through continuous professional development, or higher qualifications in sports medicine, rheumatology, acupuncture etc. Some GPs who feel unconfident with musculoskeletal problems will refer patients to secondary care if they lack other options for patient management.

It has been shown that educational interventions not only improve GPs' confidence in managing musculoskeletal conditions but can, for example, help reduce prescribing of non-steroidal anti-inflammatory drugs.¹⁸⁹

The treatment of inflammatory arthritis is increasingly reliant on drugs that, while clinically effective, need regular blood monitoring in order to minimise the serious side effects that can occur. The incidence of such side effects can be minimised if the monitoring is carried out in a well-organised way, close to the patient's home. A shared care protocol for the disease-modifying anti-rheumatic drugs used for control of rheumatoid arthritis has been developed in many areas and is provided by primary care teams as a Locally Enhanced Service in the new GMS contract.

A very large number of joint injections are carried out in general practice. Provision of practical instruction, monitoring and support for GPs who want to carry out joint injections would be likely to improve the outcome for the patient, often enabling return to work more quickly. Educational initiatives for back pain, osteoporosis and musculoskeletal emergencies are also necessary.^{190,191} (Some educational resources are described in the *Guide to websites resources*.)

With the advent of Choose and Book and practice-based commissioning, GPs with their central co-ordinating function have a major influence on what care patients with musculoskeletal symptoms receive and how they exercise choice.

As well as dealing with pain and disability, GPs are likely to be closely involved, with colleagues, in developing processes of care, such as evidence-based care pathways, direct access to other health professionals and multidisciplinary interface services. Moreover, GPs have a major role in developing and maintaining systems to ensure patient safety, clinical governance and clinical audit in the reshaped services.

GPs are also important stakeholders in supporting the delivery of the objectives for the Pathways to Work pilots run by the Department of Work and Pensions (see Chapter 2). GPs' advice and management can shape and influence patients' beliefs about their recovery and potential to return to work, and can encourage patients to access additional relevant services such as those providing vocational rehabilitation. The role of other health professionals and interface services is important in the management of these individuals.

GPs with a special interest

There is growing interest in new roles of GPwSIs, with some 1,500 GPwSIs currently in post. An increasing number are involved in the management of musculoskeletal conditions: some GPs fulfil this role within their own surgeries and others work in teams covering several practices. GPs have developed special interests within the orthopaedic/musculoskeletal fields, including rheumatology, specific joint referral assessment clinics, back pain assessment and management services, menopausal and osteoporosis services, and sports medicine. *Implementing a scheme for general practitioners with special interests* identifies¹⁸⁸ 'musculoskeletal medicine' as one of the 11 priority areas with significant access problems to which GPwSIs can contribute. A specific framework is available to guide the recruitment of GPwSIs in musculoskeletal conditions. Although not a formal medical specialty, there are in England several examples of doctors practising as musculoskeletal physicians who have formal medical training and accreditation in other medical specialties, eg general practice, rheumatology or orthopaedics. This skill set is a fusion of skills, derived from existing specialties, in one individual who can offer a multimodal approach. Training is available (see *Guide to website resources*).

Nurses

Over the last few years, the role of nurses has developed significantly and many now provide specialist services within a multidisciplinary team working as advanced nurse practitioners, specialist nurses or nurse consultants. Such nurses can carry out physical examination, assessment and monitoring before and after treatment (eg blood monitoring), prescribing, joint injections and triage.^{128,192,193} They can provide rapid access and follow-up, for symptom control, including pain management. Advanced nurse practitioner-led services have increased their scope of practice with the development of clinical management plans and prescribing.¹⁹⁵

The Nursing and Midwifery Council, the regulatory body for nursing, has recently completed a consultation on a framework for developing a standard for learning beyond registration and as a result has published a report¹⁹⁶ which will ensure that the role of nurse specialists/practitioners and others working at advanced levels will become more uniform across the country. There are also competency frameworks available.

Specialist nurses, nurse practitioners and advanced nurse practitioners

Though there is presently no national standard, most of these nurses will have studied at master's level and will incorporate into their work activities more usually undertaken by doctors. They frequently work within a specialty such as diabetes, though in primary care they also work as generalists in GP practices or NHS walk-in centres. They are likely to be qualified as nurse prescribers and will be able to order and interpret diagnostic tests and to refer or discharge patients.

Nurse consultants

This high-level clinical nursing role was introduced to encourage the most experienced and skilled nurses to remain in direct patient care. They are required to promote use of and instigate research, educate colleagues and promote service development to meet evolving patient need. There are approximately 850 nurse consultants in England and they each spend 50% of their time in direct patient care. Nurse consultants in musculoskeletal services are gradually increasing in numbers and are making significant differences to care and access.

Community matrons

The NHS Improvement Plan⁴ announced that 'patients with complex long-term conditions will be supported by community matrons, and that by 2008 every PCT will be offering these services'. This is a new role for experienced nurses. Community matrons use case management approaches for a particular group of patients with complex needs. Typically, these patients, living in the community, will have one or more long-term conditions, for which many medicines will be prescribed, and will be at risk of repeated unscheduled hospital admissions. Community matrons combine medical assessment and history-taking with clinical nursing, care co-ordination and planning roles. They teach and educate patients and their carers and also help them understand the prognosis in order to plan for the future. The community matron role differs for paediatrics, where community children's nurses have the flexibility to deliver care for children with disabilities, children requiring palliative care and also children with long-term conditions.

Pharmacists

The public has ready access to pharmacists in the heart of the community, who are well placed to make an important contribution to the promotion of health, for example giving advice on smoking cessation and reducing overweight and obesity.

The traditional pharmacy role continues to be important, but changes in meeting patient needs together with technological and scientific advances mean that broader contributions from pharmacists are becoming important. Many pharmacists are now working proactively with GP practices to influence prescribing, in undertaking medication reviews for targeted patients.

PCT pharmaceutical advisers make a significant contribution to local prescribing strategies. In addition, they are involved in commissioning drug treatments, including for specific groups of patients, which can include adults and children with musculoskeletal conditions. Increasingly, they are working with hospital chief pharmacists and community pharmacists to plan local pharmacy services. Their input to the planning of multidisciplinary interface services will be important.

Pharmaceutical advisers also have a key role in the effective implementation of the new **community pharmacy contractual framework** which came into effect in April 2005. It enables community pharmacists to play a bigger role in supporting GPs to provide high-quality primary care services to local people. It also provides many opportunities for PCTs to improve the care of people with musculoskeletal problems. For example, support for self-care and signposting are within the essential services component which will require all pharmacies to provide these services.

Medicines-use review is part of the advanced services component which will be provided by accredited pharmacies and premises. Here, the pharmacist will periodically undertake a structured review with patients receiving medicines for long-term conditions.

Guidance has been issued on the development of the **consultant pharmacist** role.¹⁹⁷

The new role builds on the success of pharmacists in developing clinical and other specialist roles and is applicable in PCTs as well as hospital-based services. The posts are to be structured around four functions: expert practice, research, education and professional leadership. There will be direct benefit to people, such as those with musculoskeletal conditions, who are dependent on expert advice in the community on medicines management, for example in relation to pain control.

Many **local pharmaceutical services** schemes are already in place, providing, among other things, support for patients in taking medicines – for example, older people, patients taking a number of medicines and those with minor ailments. The legal framework is in place for **supplementary prescribing**⁹⁰ (see Chapter 3).

PCTs will want to exploit all opportunities for increasing the input and influence of pharmacists and community pharmacies, to support the improved care of people with musculoskeletal conditions.

Specialist consultants

A consultant is a clinician who has undergone specialist medical training. They are on the specialist register of the General Medical Council and hold membership and/or fellowship of their respective Royal College. They undergo extensive training after acquiring a medical degree, followed by many years in their specialty before consultant appointment. They have at least one higher qualification from a Royal College in the UK, or equivalent.

It is the medically qualified specialist who is primarily responsible for diagnosis and investigation, for formulating a treatment plan and advising how the patient should be monitored and reviewed, in the context of a CATS or a hospital. In summary, their role is to:

- Diagnose medical conditions
- Organise and interpret investigations
- Discuss and agree the proposed treatment strategy with patients
- Review the patient for diagnosis/recognition of complications of treatment.
- Recognise and appropriately manage co-morbid conditions

The following specialist consultants work extensively with patients with musculoskeletal conditions and undertake the following key roles:

Geriatricians assist orthopaedic teams in assessment, diagnosis and treatment of medical complications arising in the surgical period. They often direct future fracture prevention strategies and have a role in rehabilitation liaison with other allied health professionals.

Orthopaedic surgeons provide both elective care and trauma. In trauma, their work includes treating fractures following accidents in the home, on the road, at sport and those related to falls in the elderly, often associated with osteoporosis. Their elective work includes treating patients with arthritis of bones and joints and the soft tissues, and congenital, hereditary, developmental and metabolic disorders that affect the musculoskeletal system. Surgeons are able to replace worn out joints, repair torn ligaments, remove abnormal or damaged tissue and stiffen those joints that are too severely damaged.

Pain medicine specialists assess the patient's pain, function, quality of life and psychological factors that may be contributing to their disability, providing education, medication advice, a pain management programme (if appropriate) and occasionally nerve blocks.

Radiologists provide a diagnostic imaging service to assist general practitioners and hospital doctors in both diagnosis and deciding upon the best management of a patient's problems. When appropriate, radiologists use minimally invasive methods to treat diseases. In addition, biopsy of tissues is carried out on a regular basis which can help to avoid the need for surgical intervention.

Rehabilitationists specialise in looking after patients who are chronically disabled, often following serious accident, industrial disease or other systemic disease which compromise their mobility. Their aim is to return as many people to as normal a pattern of work and life that they can achieve.

Rheumatologists specialise in managing the inflammatory disorders affecting the musculoskeletal system, including rheumatoid arthritis and ankylosing spondylosis. They also have a general interest in musculoskeletal pain and some may have a special interest in other conditions, such as osteoporosis.

Dentists

People with musculoskeletal conditions are entitled to the same access to dental care as anyone else. Studies have shown that impaired mobility and ability to reach services does affect the uptake of dental care, which in itself could have an impact on oral health.

Access to NHS dentists has been difficult in some parts of the country, but a radical reform of NHS dentistry is under way, with a new contract for NHS dentists from 1 April 2006. This will also include the recruitment of over 1,000 new dentists and the establishment of 53 dental access centres where people having difficulties in accessing NHS dentistry can be treated even without having an appointment. This will all help in improving access to NHS dental care. Where problems are encountered in obtaining care, PCTs will provide or will have access to a salaried primary care dental service whose specific role is to provide dental care to disabled patients in such circumstances.

People suffering from rheumatoid arthritis or osteoarthritis may also have involvement of the 'jaw' joint involved in chewing. They may also suffer from Sjogren's syndrome, with a resultant reduction in saliva flow. More frequent visits to the dentist would be recommended for such patients to ensure that early disease is detected. People with musculoskeletal conditions can be given information on risk factors to oral health, along with preventative and dietary advice.

References

- 1 Department of Health (2005). Supporting people with long-term conditions: improving care, improving lives. Department of Health, London.
- 2 Department of Health (2005). The National Service Framework for long-term conditions. Department of Health, London
- 3 Department of Health (2003). Building on the best: choice, responsiveness and equity in the NHS. Department of Health, London
- 4 Department of Health (2004). The NHS Improvement Plan: putting people at the heart of public services. Department of Health, London.
- 5 Department of Health (2005). Creating a patient-led NHS: delivering the NHS Improvement Plan. Department of Health, London.
- 6 Department of Health (2005). Commissioning an 18 week patient pathway – proposed principles and definitions: a discussion document. Department of Health, London
- 7 Woolf AD (editor) (2002). Bone and joint futures. Blackwell BMJ Books, London.
- 8 Dracass M and Sharland C (2002). Southampton University Hospitals NHS Trust integrated care pathway for revision of total hip replacement. *Journal of Integrated Care Pathways*, 6: 26–51.
- 9 Arthritis and Musculoskeletal Alliance (ARMA) (2004). Standards of care for people with back pain, osteoarthritis and inflammatory arthritis. Arthritis and Musculoskeletal Alliance, London.
- 10 NHS Alliance (2004). Clinicians, services and commissioning in chronic disease management in the NHS: report of a joint working party of the Royal College of Physicians of London, the Royal College of General Practitioners and the NHS Alliance London.
- 11 European Bone and Joint Health Strategies Project (2005). European action towards better musculoskeletal health: A public health strategy to reduce the burden of musculoskeletal conditions. The Bone and Joint Decade, Lund, Sweden.
- 12 Department of Health (2003). National Service Framework for diabetes: delivery strategy. Department of Health, London.
- 13 NHS Modernisation Agency and Department of Health (2002). Improving orthopaedic services: a guide for clinicians, managers and service commissioners. NHS Modernisation Agency and Department of Health, London.
- 14 Department of Health (2001). National Service Framework for h. Department of Health, London.
- 15 Bandolier forums (2003). Care pathways. www.ebandolier.com website resource.
- 16 Department of Health (2001). The expert patient: a new approach to chronic disease management for the 21st century. Department of Health, London.
- 17 Hirano PC, Laurent DD and Lorig K (1994). Arthritis patient education studies, 1987–1991: a review of the literature. *Patient Education and Counselling*, 24: 9–54.
- 18 Holman H and Lorig K (2000). Patients as partners in managing chronic disease. *British Medical Journal*, 320: 526–527.
- 19 Barlow JH, Turner AP and Wright CC (2000). A randomized controlled study of the Arthritis Self-Management Programme in the UK. *Health Education Research: Theory and Practice*, 15: 665–680.
- 20 Hawker GA, Wright JG, Glazier RH, Coyte PC, Harvey B, Williams JI and Badley EM (2002). The effect of education and income on need and willingness to undergo total joint arthroplasty. *Arthritis and Rheumatism*, 46: 3331–3339
- 21 Department of Health (2003). Liberating the talents: practitioners with special interests in primary care. Department of Health, London.
- 22 Department of Health and Royal College of General Practitioners (2002). Implementing a scheme for general practitioners with special interests. Department of Health, London.
- 23 Clode-Baker E, Draper E, Raymond NT, Haslam C and Gregg P (1997). Preparing patients for total hip replacement: a randomised controlled trial of a preoperative educational intervention. *Journal of Health Psychology*, 2: 107–114.
- 24 Morris RW, Fitzpatrick R, Hajat S, Reeves BC, Murray DW, Hannen, D Rigge M, Williams O and Gregg PJ (2001). Primary total hip replacement: variations in patient management in Oxford and Anglia, Trent, Yorkshire and northern 'regions'. *Annals of the Royal College of Surgeons of England*, 83: 190–196.
- 25 Department of Health (2000). The NHS Cancer Plan: a plan for investment, a plan for reform. Department of Health, London.
- 26 Department for Work and Pensions (2005). Opportunity age: meeting the challenges of ageing in the 21st century: volume two. Department for Work and Pensions, London.
- 27 Department for Work and Pensions (2004). Framework for vocational rehabilitation: a plan for getting people back to work if they are ill or have hurt themselves. Department for Work and Pensions, London.
- 28 Department of Health (2004). National Service Framework for children, young people and maternity services. Department of Health, London.
- 29 Department for Work and Pensions (2002). Pathways to work: helping people into employment. Department for Work and Pensions, London.

- 30 'Who cares wins: absence and labour turnover 2005'. CBI (In association with AXA) - May 2005.
- 31 National Amputee Statistical Database – www.nasdad.co.uk
- 32 National Institute for Health and Clinical Excellence (2002). Guidance on the use of etanercept and infliximab for the treatment of rheumatoid arthritis. Technology Appraisal Guidance 36. National Institute for Health and Clinical Excellence, London.
- 33 National Institute for Health and Clinical Excellence (2002). Guidance on the use of etanercept for the treatment of juvenile idiopathic arthritis. Technology Appraisal Guidance 35. National Institute for Health and Clinical Excellence, London.
- 34 National Institute for Health and Clinical Excellence (2002). Guidance on the use of metal on metal hip resurfacing arthroplasty. Technology Appraisal Guidance 44. National Institute for Health and Clinical Excellence, London.
- 35 National Institute for Health and Clinical Excellence (2005). Bisphosphonates (alendronate, etidronate, risedronate), selective oestrogen receptor modulators (raloxifene) and parathyroid hormone (teriparatide) for the secondary prevention of osteoporotic fragility fractures in postmenopausal women. Technology Appraisal 87. National Institute for Health and Clinical Excellence, London.
- 36 National Institute for Health and Clinical Excellence (2001). Guidance on the use of cyclo-oxygenase (Cox) II selective inhibitors, celecoxib, rofecoxib, meloxicam and etodolac for osteoarthritis and rheumatoid arthritis. Technology Appraisal Guidance 27. National Institute for Health and Clinical Excellence, London.
- 37 Dixon T, Shaw M, Ebrahim S and Dieppe P (2004). Trends in hip and knee joint replacement: socioeconomic inequalities and projections of need. *Annals of the Rheumatic Diseases*, 63: 825–830.
- 38 Yong PFK, Milner PC, Payne JN, Lewis PA and Jennison C (2004). Inequalities in access to knee joint replacements for people in need. *Annals of the Rheumatic diseases*. 63: 1483–1489.
- 39 Milner PC, Payne JN, Stanfield RC, Lewis PA, Jennison C and Saul C (2004). Inequalities in accessing hip joint replacement for people in need. *European Journal of Public Health*, 14: 58–62.
- 40 Department of Health (2001). Learning difficulties and ethnicity.
- 41 Department of Health, London. Department for Transport (2004). Transport statistics bulletin: road traffic statistics: 2003. Department for Transport, London
- 42 Department of Health (2004). National standards, local action: health and social care standards and planning framework 2005/06–2007/08. Department of Health, London.
- 43 Department of Health (2000). The NHS Plan. Department of Health, London.
- 44 Department of Health (2004). Choosing health: making healthy choices easier. Department of Health, London.
- 45 Department of Health (2005). Self care – a real choice: self care support – a practical option. Department of Health, London
- 46 Department of Health and NHS Connecting for Health (2005). Choose and book implementation toolkit. Department of Health and NHS Connecting for Health, London.
- 47 Department of Health (2004). Standards for better health. Department of Health, London.
- 48 Department of Health (2002). Reforming NHS financial flows: introducing payment by results. Department of Health, London
- 49 Department of Health (2004). Better information, better choices, better health: putting information at the centre of health. Department of Health, London.
- 50 Department of Health (2006) Supporting people with long term conditions to self care: A guide to developing local strategies and good practice.
- 51 Department of Health (2005). Independence, well-being and choice: our vision for the future of social care for adults in England. Department of Health, London.
- 52 Department of Health (2005). Responses to the consultation on adult social care in England: Analysis of feedback from the Green Paper Independence, Wellbeing and Choice. Department of Health, London.
- 53 Department of Health (2006) Our health, our care, our say: a new direction for community services.
- 54 Department of Health (2004). Better health in old age: report from Professor Ian Philp. Department of Health, London.
- 55 Department of Health (2004). Making partnership work for patients, carers and service users: a strategic agreement between the Department of Health, the NHS and the voluntary and community sector. Department of Health, London.
- 56 Department of Health (2005). Partnerships for older people projects. Department of Health, London.
- 57 Department of Health (2003). The national programme for IT in the NHS. Department of Health, London.
- 58 Department of Health (2005). Choosing activity: a physical activity action plan. Department of Health, London.
- 59 Department of Health (2005). Choosing health through pharmacy: a programme for pharmaceutical public health 2005–2015. Department of Health, London.

- 60 Department of Health and NHS Modernisation Agency (2004). 10 high impact changes for service improvement and delivery. Department of Health and NHS Modernisation Agency, London. .
- 61 Improving Services, Improving Lives: Evidence and Key Themes – Social Exclusion Unit 2006
- 62 Arthritis Research Campaign (2002). Arthritis: the big picture. Arthritis Research Campaign, Chesterfield, Derbyshire.
- 63 Smith BH (2002). Chronic pain: a primary care condition. *Rheumatic Disease: In Practice: practice advice on management of rheumatic disease*, 9.
- 64 National Audit Office (2003). Hip replacements: an update: Report by the Comptroller and auditor general. The Stationery Office, London.
- 65 Arthritis Care (2004). OA nation. Arthritis Care, London.
- 66 Department of Health: Opinion Leader Research (2003). Results from a programme of consultation to develop a patient experience statement: final report. Department of Health: Opinion Leader Research, London.
- 67 National Rheumatoid Arthritis Society (2005). Disease modifying anti-rheumatic drugs and biologics. National Rheumatoid Arthritis Society, Maidenhead.
- 68 Department of Health (2005). Supporting people with long-term conditions: liberating the talents of nurses who care for people with long term conditions. Department of Health, London.
- 69 Waddell G, Burton AK and Bartys S (2004). Concepts of rehabilitation for the management of common health problems. The Stationery Office, London.
- 70 Department of Health/Department for Education and Skills(2004). Every child matters: change for children. Department of Health, London
- 71 Department of Health (2005). Public attitudes to self-care: baseline survey. Department of Health, London.
- 72 Department of Health (2005). Choosing a better diet: a food and health action plan. Department of Health, London.
- 73 Jordan KM, Arden NK, Doherty M, et al (2003). EULAR recommendations 2003: an evidence based approach to the management of knee osteoarthritis: report of a task force of the Standing Committee for International Clinical Studies including Therapeutic Trials (ESCISIT). *Annals of the Rheumatic Diseases*, 62: 1145–1155.
- 74 Zhang W Doherty M Arden N, et al - EULAR evidence-based recommendations for the management of hip osteoarthritis: report of a task force of the Euler Standing Committee for International Clinical Studies including Therapeutics (ESCISIT) *Annals of Rheumatic Disease* (2005) 64(5), 669-681.
- 75 Hutchinson D, Shepstone L, Moots R, Lear JT and Lynch MP (2001). Heavy cigarette smoking is strongly associated with rheumatoid arthritis (RA), particularly in patients without a family history of RA. *Annals of the Rheumatic Diseases*, 60: 223–227.
- 76 Sofat N and Keat A (2002). Alcohol intake in rheumatic disease: good or bad? *Rheumatology*, 41: 125–128.
- 77 Palmer KT, Syddall H, Cooper C and Coggon D (2003). Smoking and musculoskeletal disorders: findings from a British national survey. *Annals of the Rheumatic Diseases*, 62: 33–36.
- 78 Goodson NJ, Silman AJ, Pattison DJ, Lunt M, Bunn D, Luben R, Day N, Khaw KT and Symmons DP (2004). Traditional cardiovascular risk factors measured prior to the onset of inflammatory polyarthritis. *Rheumatology*, 43: 731–736.
- 79 Department of Health: Physical Activity, Health Improvement and Prevention (2004). At least five a week: evidence on the impact of physical activity and its relationship to health: a report from the Chief Medical Officer. Department of Health, London.
- 80 UK Sport and Department of Health Sport and Exercise Medicine Workgroup (2004). Sport and exercise medicine: developing specialities in medicine – the case for recognition of sport and exercise medicine as a new CCST (CCT) speciality. UK Sport and Sport and Exercise Medicine Workgroup, London.
- 81 Department of Health (2002). Preventing accidental injury – priorities for action: report to the Chief Medical Officer from the Accidental Injury Task Force. Department of Health, London.
- 82 Faculty of Occupational Medicine (2000). Occupational Health Guidelines for the Management of Low Back Pain. Faculty of Occupational Medicine, London.
- 83 Assessing the quality of information to support people in making decisions about their health and healthcare (May 2006) – Angela Coulter, Jo Ellins, Danielle Swain et al; Picker Institute Europe, Oxford and Public Health Resource Unit, Oxford,
- 84 Department of Health. (To be published shortly) Getting the most from your local health services: a guide for people with musculoskeletal conditions. Department of Health, London.
- 85 Department of Health. (To be published shortly) Implementing the musculoskeletal services framework: a guide to websites and other resources. Department of Health, London.
- 86 Corben S and Rosen R (2005). Self-management for long-term conditions: patients' perspectives on the way ahead. King's Fund, London.
- 87 NHS Alliance and National Primary and Care Trust Development Programme (2004). Can do! NHS Alliance and NatPaCT, Nottingham. (now 'NHS Networks')

- 88 Holdsworth LK, Webster VS, McFadyen AK, and the Scottish Physiotherapy Self Referral Study Group - Self-referral to physiotherapy: deprivation and geographical setting – is there a relationship? Results of a national trial. *Physiotherapy*, Vol 92, Issue 1, March 2006, 16-25
- 89 Department of Health (2005). Evaluation of extended formulary independent nurse prescribing. Department of Health, London.
- 90 Department of Health (2003). Supplementary prescribing by nurses and pharmacists within the NHS in England: a guide for implementation. Department of Health, London.
- 91 Department of Health (2004). National Service Framework for Children, Young People and Maternity Services: key issues for primary care. Department of Health, London.
- 92 Department of Health (2004). Standard for Disabled children and young people and those with complex health needs, in National Service Framework for Children, Young People and Maternity Services. Department of Health, London.
- 93 Department of health (2005). Complex disability exemplar: National service framework for Children young people and maternity services. Department of health, London.
- 94 Royal College of Paediatrics and Child Health (2003). Bridging the gaps: health care for adolescents. Royal College of Paediatrics and Child Health, London.
- 95 Better Regulation Task Force (2004). Better routes to redress. Better Regulation Task Force, London.
- 96 Department of Health (2005). Research and Development Work Relating to Assistive Technology 2004-05. Department of Health, London.
- 97 Audit Commission (2002) Fully Equipped – Audit Commission, London
- 98 Department of Health (2001). Guide to integrating community equipment services. Department of Health, London.
- 99 Audit Commission (2004) Quicker treatment closer to home: primary care trusts' success in redesigning care pathways. Audit Commission, London.
- 100 Improved access and targeting of musculoskeletal services in northwest Wales: targeted early access to musculoskeletal services (TEAMS) programme. Maddison P, Jones J, Breslin A, Barton C et al *BMJ*. 2004 Dec 4;329(7478)
- 101 Clinical leadership – a new partnership approach, Speech delivered by Rt Hon Patricia Hewitt MP, Secretary of State for Health, 11 October 2005: New Health Network.
- 102 Osteoarthritis affecting the hip and knee' in Stevens A, Raftery J, Mant J and Simpson S (2004). Health care needs assessment: the epidemiologically based needs assessment reviews: series one. Radcliffe Press, Oxford.
- 103 Arthritis Research Campaign (2002). Healthcare needs assessment for musculoskeletal diseases: the first step – estimating the number of incident and prevalent cases. Arthritis Research Campaign, Derbyshire.
- 104 NHS Modernisation Agency and Department of Health (2005). Process mapping, analysis and redesign: general improvement skills: Improvement Leaders' Guide. NHS Modernisation Agency and Department of Health, London.
- 105 Woolf TD, Carr A, Amin N and Blower A (2003). Deficiencies in the management of musculoskeletal pain: a UK population perspective.
- 106 National Rheumatoid Arthritis Society (2004). Beyond the pain: the social and psychological impact of RA. National Rheumatoid Arthritis Society, Maidenhead.
- 107 Management of chronic pain in adults: Best practice statement- NHS Quality improvement, Scotland - February 2006
- 108 McEwen, James (2004) Chronic Pain Services in Scotland. Scottish Executive Health Department
- 109 Dr Foster and the Pain Society (2003). Your guide to better health: adult chronic pain management Services in the UK. Dr Foster and the Pain Society, London.
- 110 UK BEAM Trial Team (2004). United Kingdom back pain exercise and manipulation (UK BEAM) randomised trial: cost effectiveness of physical treatments for back pain in primary care. *British Medical Journal*, 329: 1381–1387.
- 111 NHS Modernisation Agency, Department of Health and National Primary and Care Trust Development Programme (2005). Improving services for people with back pain – good practice guide. NHS Modernisation Agency, London. (now www.wise.nhs.uk)
- 112 Department of Health (1998). The prevalence of back pain in Great Britain in 1998. Statistical bulletin 1999/18. Department of Health, London.
- 113 National Osteoporosis Society (2005). Real life: the real facts of life in osteoporosis. National Osteoporosis Society, Bath.
- 114 Key steps in establishing a Fracture Liaison Service for the Secondary Prevention of Osteoporotic Fractures – National Osteoporosis Society/British Orthopaedic Association – May 2005.
- 115 The fracture liaison service: success of a program for the evaluation and management of patients with osteoporotic fracture Alastair R. McLellan, Stephen J. Gallacher, Mayrine Fraser, Carol McQuillan - Published online: *Osteoporos Int* (2003) 14: 1028–1034
- 116 Pincus T, Kavanaugh A and Sokka T (2004). Benefit/risk of therapies for rheumatoid arthritis: underestimation of the 'side effects' or risks of RA leads to underestimation of the benefit/risk of therapies. *Clinical and Experimental Rheumatology*, 22(Suppl. 35): S2– S11.

- 117 Kirwan JR, Aaverns H, Creamer P, et al. Changes in rheumatology out-patient workload over 12 years in the South West of England. *Rheumatology* 2003; 42: 175–179.
- 118 Kirwan JR. Referral patterns. In: Haslock I, Pitzalis C, Reeves B, Shipley M (Eds), *Key Advances in the effective management of Rheumatoid Arthritis*. Royal Society of Medicine, London, 2001: 14-17.
- 119 Grigor C, Capell H, Stirling A et al. (2004). Effects of a treatment strategy of controlled trial. *The Lancet*, 364: 263–269.
- 120 Scottish Intercollegiate Guidelines Network (2000). *Management of early rheumatoid arthritis*. Scottish Intercollegiate Guidelines Network, Edinburgh
- 121 Ledingham J and Deighton C on behalf of the British Society for Rheumatology Standards, Guidelines and Audit Working Group (SGAWG) (2005). Update on the British Society for Rheumatology guidelines for prescribing TNF? blockers in adults with rheumatoid arthritis (update of previous guidelines of April 2001). *Rheumatology*, 44: 157–163.
- 122 Barton P, Jobanputra P, Wilson J, Bryan S and Burls A (2004). The use of modelling to evaluate new drugs for patients with a chronic condition: the case of antibodies against tumour necrosis factor in rheumatoid arthritis. *Health Technology Assessment*, 8(11): 1–104
- 123 Wong JB (2004). Cost-effectiveness of anti-tumour necrosis factor agents. *Clinical and Experimental Rheumatology*, 22(Suppl. 35) S65–S70.
- 124 Kobelt G, Lindgren P, Lindroth Y, Jacobson L and Eberhardt K (2005). Modelling the effect of function and disease activity on costs and quality of life in rheumatoid arthritis. *Rheumatology Advance Access*, 14 June 2005.
- 125 Pincus T and Callahan LF (1993). The 'side effects' of rheumatoid arthritis: joint destruction, disability and early mortality. *Rheumatology*, 32: 28–37.
- 126 Scott DL, Shipley M, Dawson A, Edwards S, Symmons DP and Woolf AD (1998). The clinical management of rheumatoid arthritis and osteoarthritis: strategies for improving clinical effectiveness. *British Journal of Rheumatology*, 37: 546–554.
- 127 Carr A (editor) (2001). *Defining the extended clinical role for allied health professionals in rheumatology*. Arthritis Research Campaign Conference Proceedings No. 12. Arthritis Research Campaign, Chesterfield, Derbyshire.
- 128 Mooney J (1999). Bridging the gap between primary and secondary care: rheumatology nursing outreach clinics. Poster presentation to EULAR; *Annals of Rheumatic Diseases*, abstract supplement no. 302.
- 129 Hughes RA, Carr ME, Huggett A and Thwaites CEA (2002). Review of the function of a telephone helpline in the treatment of outpatients with rheumatoid arthritis. *Annals of the Rheumatic Diseases*, 61: 341–345.
- 130 Hewlett S, Mitchell K, Haynes J, Paine T, Korendowych E and Kirwan JR. (2000). A shared care system of hospital follow-up reduced pain and use of healthcare resources and increased satisfaction in patients with rheumatoid arthritis. *Rheumatology*, 39: 990–997.
- 131 Department of Health (2002). *Specialised Services National Definitions Set: specialised rheumatology services (adult)–definition no. 26*. 2nd edition. Department of Health, London.
- 132 Department of Health: Clinical Standards Advisory Group (2000). *Services for patients with pain: report of a CSAG committee chaired by Professor Alastair Spence*. Department of Health, London.
- 133 Covic T, Adamson B, Spencer D and Howe G (2003). A biopsychosocial model of pain and depression in rheumatoid arthritis: a 12-month longitudinal study. *Rheumatology*, 42: 1287–1294.
- 134 Main CJ and Spanwick CC (editors) (2000). *Pain management: an interdisciplinary approach*. Churchill Livingstone, Edinburgh.
- 135 McDonagh JE, Southwood TR and Shaw KL on behalf of the British Paediatric Rheumatology Group (2004). Unmet education and training needs of rheumatology health professionals in adolescent health and transitional care. *Rheumatology*, 43: 737–743.
- 136 Royal College of Nursing (2004). *Adolescent transition care*. Royal College of Nursing, London.
- 137 Ethgen O, Bruyere O, Richy F, Dardennes C, Reginster JY (2004). Health-related quality of life in total hip and total knee arthroplasty: a qualitative and systematic review of the literature. *The Journal of Bone and Joint Surgery (American)* 86: 963-974.
- 138 Rissanen P, Aro S, Sintonen H, Asikainen K, Slati P, Paavolainen P (1997). Costs and cost-effectiveness in hip and knee replacements: a prospective study. *International journal of technology assessment in health care*. 13(4): 575–88.
- 139 Woolhead GM, Donovan JL, Dieppe PA. Outcomes of total knee replacement: a qualitative study. *Rheumatology*. 44(8):1032-7, 2005 Aug.
- 140 Best AJ, Fender D, Harper WM, McCaskie AW, Oliver K and Gregg PJ (1998). Current practice in primary total hip replacement: results from the National Hip Replacement Outcome Project. *Annals of the Royal College of Surgeons of England*, 80: 350–355.
- 141 Williams O, Fitzpatrick R, Hajat S, Reeves BC, Stimpson A, Morris RW, Murray DW, Rigge M and Gregg PJ (2002). Mortality, morbidity, and 1-year outcomes of primary elective total hip arthroplasty. *Journal of Arthroplasty*, 17: 165–171.
- 142 Dixon T, Shaw ME, Dieppe PA. Analysis of regional variation in hip and knee joint replacement rates in England using Hospital Episode Statistics. *Public Health*. 2006 Jan;120(1):83-90

- 143 Sutton M, Gravelle H, Morris S, Leyland A, Windmeijer F and Dibben C (2005). Allocation of resources to English areas: individual and small area determinants of morbidity and use of healthcare resources. Report to the Department of Health. Information Services Division, Edinburgh.
- 144 Chaturvedi N and Ben-Shlomo Y (1995). From the surgery to the surgeon: does deprivation influence consultation and operation rates? *British Journal of General Practice*, 45: 127–131.
- 145 Carr-Hill R, Chalmers-Dixon P - The Public Health Observatory Handbook of Health Inequalities Measurement – Editor Lin J, 2005, South East England Public Health Observatory/(NHS)Association of Public Health Observatories.
- 146 Mahomed NN, Barrett JA, Katz JN, Phillips CB, Losina E, Lew RA, Guadagnoli E, Harris WH, Poss R and Baron JA (2003). Rates and outcomes of primary and revision total hip replacement in the United States Medicare population. *Journal of Bone Joint Surgery America*, 85A: 27–32.
- 147 Hutchings A, Raine R, Brady A, Wildman and Rowan KM (2004). Socioeconomic status and outcome from intensive care in England and Wales. *Medical Care*, 42: 943–951.
- 148 Department of Health (2005). The acutely or critically sick or injured child in the district general hospital: a team response for consultation. Department of Health, London.
- 149 Department of Health (2005). The National Orthopaedic Project: faster access for NHS patients. Department of Health, London.
- 150 Fitzpatrick R, Morris R, Hajat S, Reeves B, Murray DW, Hannen D, Rigge M, Williams O and Gregg PJ (2000). The value of short and simple measures to assess outcomes for patients of total hip replacement surgery. *Quality in Health Care*, 9: 146–150.
- 151 British Orthopaedic Association (2003). The Care of Fragility Fracture Patients. British Orthopaedic Association, London
- 152 Heyburn G, Beringer T, Elliott J, Marsh DR, (2004). Orthogeriatric care in patients with fractures of the proximal femur. *Clinical Orthopaedics and Related Research*, 425: 35-43.
- 153 McLellan AR, Gallacher SJ, Fraser M, McQuillan C, (2003). The fracture liaison service: success of a program for the evaluation and management of patients with osteoporotic fracture. *Osteoporosis Int*,14(12):1028-34.
- 154 Scottish Intercollegiate Guidelines Network (2002). Prevention and management of hip fracture in older people. SIGN publication No. 56. Scottish Intercollegiate Guidelines Network, Edinburgh.
- 155 Department of Health (2005). A guide to emergency medical and surgical admissions. Department of Health, London
- 156 Scottish Hip Fracture Audit Report 2005 – NHS National Services Scotland www.show.scot.nhs.uk/shfa
- 157 Trauma Audit and Research Network (TARN) – www.tarn.ac.uk
- 158 Nicklin J (2002). Improving the quality of written information for patients. *Nursing Standard*, 16: 49, 39–44.
- 159 Ainsworth R, Conboy V, Norman J and Viner N (2004). Towards multidisciplinary teamworking in musculoskeletal care. *Musculoskeletal Care*, 2: 2, 113–119.
- 160 Audit Commission (2004). Whole Orthopaedics Steering Board: review of orthopaedic multi-professional triage team. Audit Commission, London.
- 161 Maxwell S, Degeling P, Kennedy J, Coyle B (2005) Improving Clinical Management: The Role of ICP-Based Clinical Management Systems. A Report of the Clinical Management Development Project, Centre for Clinical Management Development, University of Durham. Durham.
- 162 Department of Health (2002). Specialised services national definition set. Department of Health, London.
- 163 The Hospital Guide – Hip Replacement Dr Foster Ltd 2005
- 164 Department of Health: Agenda for Change Project Team (2004). The NHS Knowledge and Skills Framework (NHS KSF) and the development review process. Department of Health: Agenda for Change Project Team, Leeds.
- 165 Department of Health (2003). Specialised Services National Definitions Set: specialised services for children—definition no. 23. 2nd edition. Department of Health, London.
- 166 Dr Foster (2004). Research into volumes and specialisation of orthopaedic surgery. Report commissioned by Department of Health. Department of Health, London.
- 167 Judge A, Chard J, Learmonth I, Dieppe P. The effects of surgical volumes and training centre status on outcomes following total joint replacement: analysis of the Hospital Episode Statistics for England. *Journal of Public Health* 2006 (April 5th)
- 168 The Royal College of Surgeons of England (2005). Developing a modern surgical workforce. The Royal College of Surgeons of England, London
- 169 Hacker J and Stanistreet D (2004). Equity in waiting times for two surgical specialties: a case study at a hospital in the North West of England. *Journal of Public Health*, 26: 56–60.
- 170 Bunker J (2001). The role of medical care in contributing to health improvements within societies. *International Journal of Epidemiology*, 30: 1260–1263.
- 171 Hajat S, Fitzpatrick R, Morris RW, Reeves BC, Hannen D, Rigge M, Williams O, Murray DW and Gregg PJ (2001). Does waiting for total hip replacement matter? Prospective observational study. *Journal of Health Services Research and Policy*, 7: 19–25.

- 172 Healthcare Commission (2004). Patient survey report 2004. Healthcare Commission, London.
- 173 National Institute for Health and Clinical Excellence (2004). Guidance on cancer services: improving supportive and palliative care for adults with cancer: the manual. National Institute for Health and Clinical Excellence, London.
- 174 Department of Health (2005). Commissioning children's and young people's palliative care services: a practical guide for the NHS commissioners. Department of Health, London.
- 175 Department of Health (2005). Health reform in England: update and the next steps. Department of Health, London.
- 176 Department of Health (2004). National Primary Care Development Team (2005). Chronic disease management: Unique Care. National Primary Care Development Team, Manchester.
- 177 Stevens A and Raftery J (2004). Healthcare needs assessment: the epidemiologically based needs assessment reviews. Radcliffe Press, Oxford.
- 178 Scally G and Donaldson LJ (1998). Clinical governance and the drive for quality improvement in the new NHS in England. *British Medical Journal*, 317: 61–65.
- 179 Clinical Governance Support Team (2005). A practical handbook for clinical audit. Clinical Governance Support Team, Leicester.
- 180 National Joint Registry (2005). National Joint registry for England and Wales: 2nd annual report September 2005. National Joint Registry, Harwell.
- 181 Healthcare Commission (2005). Acute hospital portfolio review: accident and emergency. Healthcare Commission, London.
- 182 Chartered Society of Physiotherapy (2005). Competence and capability resource pack: part one. Chartered Society of Physiotherapy, London.
- 183 Chartered Society of Physiotherapy (2004). Making physiotherapy count: a range of quality assured services. Chartered Society of Physiotherapy, London..
- 184 Woodburn J and Helliwell PS (1997). Foot problems in rheumatology. *British Journal of Rheumatology*, 36: 931–934.
- 185 Department of Health (2005). Supplementary prescribing by nurses, pharmacists, chiropodists/podiatrists, physiotherapists and radiographers within the NHS in England. Department of Health, London.
- 186 General Chiropractic Council (2005). Code of practice and standard of proficiency. General Chiropractic Council, London.
- 187 General Osteopathic Council (2005). Code of practice. General Osteopathic Council, London.
- 188 Department of Health and Royal College of General Practitioners (2002). Implementing a scheme for general practitioners with special interests. Department of Health, London.
- 189 May FW, Rowett DS, Gilbert AL, McNeece JI and Hurley E (1999). Outcomes of an educational-outreach service for community medical practitioners: non-steroidal anti-inflammatory drugs. *Medical Journal of Australia*, 170: 471–474.
- 190 Underwood Me, O'Meara S, Harvey E and UK BEAM Trial Team (2002). The acceptability to primary care staff of a multidisciplinary training package on acute back pain guidelines. *Family Practice*, 19(5): 511–515.
- 191 Goh L, Samanta A, Cavendish S and Heney D (2004). Rheumatology curriculum: passport to the future successful handling of the musculoskeletal burden? *Rheumatology*, 43: 1468–1472.
- 192 Gormley GJ, Steele WK, Gilliland A, Leggett P, Wright GD, Bell AL, Matthews C, Meenagh G, Wylie E, Mulligan R, Stevenson M, O'Reilly D and Taggart AJ (2003). Can diagnostic triage by general practitioners or rheumatology nurses improve the positive predictive value of referrals to early arthritis clinics? *Rheumatology*, 42: 763–768.
- 193 Hill J and Hale CA (2004). Clinical skills: evidence-based nursing care of people with rheumatoid arthritis. *British Journal of Nursing*, 13: 852–857.
- 194 Hill J and Pollard A 'Nurse clinics: not just assessing patients' joints.' In Oliver S (editor) (2004). *Chronic disease nursing: a rheumatology example*. Whurr Publications, London.
- 195 Kennedy T, McCabe C, Struthers G, Sinclair H, Chakravaty K, Bax D, Shipley M, Abernethy R, Palferman T and Hull R (2005). BSR guidelines on standards of care for persons with rheumatoid arthritis. *Rheumatology*, 44: 553–556.
- 196 Nursing and Midwifery council (2005). NMC Consultation on a proposed framework for the standard for post-registration nursing. Nursing and Midwifery council, London.
- 197 Department of Health (2005). Guidance for the development of consultant pharmacist posts. Department of Health, London.

Acknowledgments

Many individuals and organisations have contributed their time and expertise to creating this document. The Department of Health wishes to acknowledge their invaluable contribution and is grateful to all those involved in creating this Framework. To date the following organisations have formally endorsed this document:



Society of Radiographers



British Orthopaedic Association





© Crown Copyright 2006
270211 2p 1k Jan 07 (ESP)
Produced by The Department of Health

If you require further copies of this title quote 270211/
Musculoskeletal Services Framework and contact:

DH Publications Orderline
PO Box 777
London SE1 6XH
E-mail: dh@prolog.uk.com

Tel: 08701 555 455
Fax: 01623 724 524
Textphone: 08700 102 870 (8am to 6pm, Monday to Friday)

www.dh.gov.uk/publications