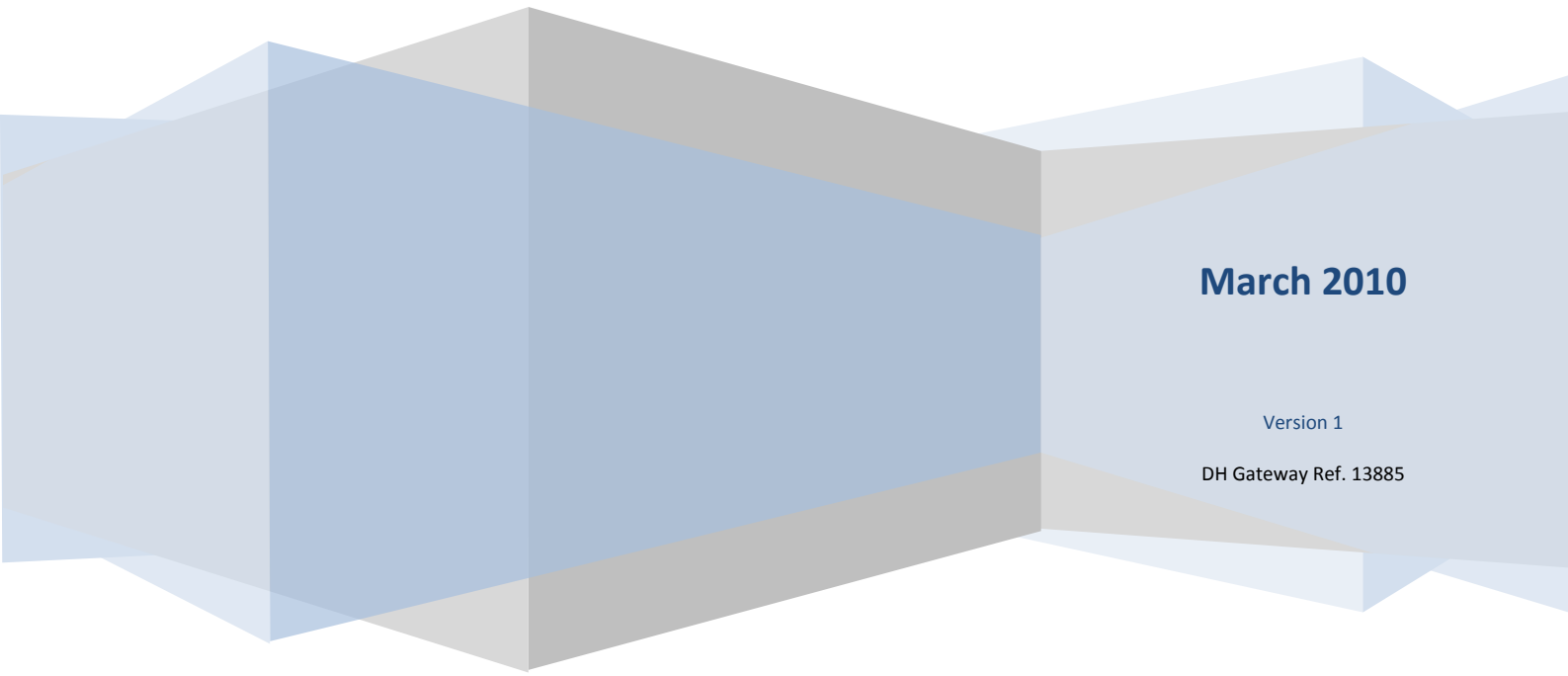
Organising Quality and Effective Spinal Services for Patients

A report for local health communities by the Spinal Taskforce



March 2010

Version 1

DH Gateway Ref. 13885

Update to this report

This document currently refers to a number of 18 Weeks weblinks that will shortly become out of date. At some point in 2010, all content on the 18 Weeks website will be transferred to the DH website (or other suitable home) and the 18 Weeks website will be closed.

Once the relevant content, referred to in this report, has migrated, this report will be updated with the new links as Version 2 and republished on the DH website.

Organising quality and effective spinal services for patients

Foreword

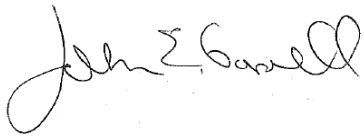
This report is intended to assist the NHS in developing and delivering effective spinal services, creating a set of productive services that deliver quality, timely and clinically appropriate care that meets patients' needs and expectations.

The report was commissioned in response to the national work on delivering 18 week pathways (for all patients who wish to be treated within 18 weeks and for whom it is clinically appropriate). In many Strategic Health Authorities (SHAs), providers were particularly struggling to deliver 18 week pathways for patients requiring spinal surgery. 'Top tips' aimed at organisations providing spinal services, giving operational advice on managing patients and organising service provision were therefore prepared and published in 2008. In preparing the 'top tips', it became clear that some wider issues around the organisation of spinal services also needed to be addressed, to ensure that the right range of services are available for patients and that these services are aligned in a way that is clinically safe and ensures rapid access, both for elective and emergency conditions. Closely aligned to this, the service would also benefit from support and guidance around implementing current National Institute for Clinical Excellence (NICE) Guidelines on spinal conditions including back pain and metastatic spinal cord compression.

The Department of Health (DH) therefore asked the Spinal Taskforce (membership detailed in **Appendix 1**) that developed the 'top tips' to also produce this short, but concise report for local health communities, including SHAs, PCTs, service managers and clinicians. This document will be particularly useful for those planning the delivery of spinal services for a wide population.

The document describes the main types of patients being referred to spinal services and gives advice on how to organise services to meet the needs of these groups, paying particular attention to the quality, clinical outcomes and cost-effectiveness of the services provided. It suggests the creation of a clinical network to offer advice on developing the right services for the local population.

I very much hope that the recommendations in this guidance will help them to address the challenges being faced in their local area.



Mr John Carvell
Consultant Spinal Surgeon and BMA representative
Chair of the Spinal Taskforce

Organising quality and effective spinal services for patients

Introduction

As part of the national work on delivering 18 week pathways (for all patients who wish to be treated within 18 weeks and for whom it is clinically appropriate), it emerged that, in many Strategic Health Authorities (SHAs), providers were particularly struggling to deliver 18 week pathways for patients requiring spinal surgery, with waits continuing to be longer than average waits across the country. The Department of Health (DH) (in collaboration with the relevant specialist associations and professional bodies) prepared a set of **'top tips' aimed at organisations providing spinal services** (see **Appendix 2**), giving operational advice on managing patients and organising service provision. In preparing this, it became clear that some wider issues around the organisation of spinal services also need to be addressed, to ensure that the right range of services are available for patients and that these services are aligned in a way that is clinically safe and ensures rapid access, both for elective and emergency conditions. This report addresses these concerns.

It looks at the effective organisation of spinal services for a wide population to support those planning and commissioning services across an SHA, PCTs and clinical and managerial teams within provider units. The document describes the main types of patients being referred for spinal treatment and advises on how to organise services to meet the needs of these groups, paying particular attention to quality, clinical outcomes and cost-effectiveness.

This report is intended to assist the NHS with the development and delivery of effective spinal services, that deliver quality, timely and clinically appropriate care, which meet patients' needs and expectations. It will also help **support the implementation of specific NICE guidelines on lower back pain and cancer of the spine.** As with guidance such as that issued by NICE, it is important to note that this document does not over-ride the individual responsibility of health care professionals to make decisions appropriate to the circumstances of the individual patient.

Patients requiring spinal services

Key to the organisation of safe and effective spinal services is an understanding of the type of patients presenting with spinal complaints and the services they require. Essentially, services should be arranged so that elective patients receive very early and robust triage and are then promptly referred to the most appropriate area for their condition. This will ensure that any 'red flags' are acted upon swiftly, but also ensure that patients with less clinically urgent needs receive care that is appropriate for their condition, thus preventing a decline into long-term chronic pain. Patients presenting as emergencies require emergency services that are able to promptly assess and investigate their condition, backed by appropriate in-patient provision. Broadly, patients requiring access to spinal services fall into the following main categories:

i. Non-specific low back pain

The largest group of patients will be those with **'non-specific low back pain'.** The vast majority of these patients, when presenting early in primary care, will benefit from simple structured education and reassurance based on the following well recognised national and international guidelines:

- **NICE Clinical Guideline CG88 - Early management of persistent non-specific low back pain**[1]
- The 18 week commissioning back pain pathway[2]
- Welsh government/health advice on backpain[3]

To help implement the suggestions in this report, and the clinical guidelines from NICE, there should be a focus on self-management of pain by providing patients with information about their condition, advising early mobilisation, and providing reassurance that most episodes will improve spontaneously[4].

When symptoms persist for **longer than six weeks**, or are recurrent, patients should undergo bio-psychosocial assessment, with confirmation of the diagnosis. A choice of the core therapies recommended in the NICE "low back pain guidelines" should be offered; exercise therapy, (preferably in groups) manual therapy, or acupuncture. Medication should be reviewed by their GP with advice from a pain specialist if necessary, especially if strong opioids are to be considered.

The Musculoskeletal Framework[5] recommends that the NHS work with employers to encourage good occupational health in the wider community, resulting in a reduction in sickness absence, particularly relating to those with previous sick leave and older workers. Optimally, patients who have failed to respond to one or more of these less intensive treatments should undergo a further bio-psychosocial assessment, and, where there are

[1] www.nice.org.uk/CG88
[2] www.18weeks.nhs.uk/Content.aspx?path=/achieve-and-sustain/Specialty-focussed-areas/Orthopaedics/pathways
[3] www.welshbacks.com
[4] The Back Book ISBN 0-11-702949-1
[5] Department of Health, A joint responsibility: doing it differently – the musculoskeletal services framework, 12 July 2006 (http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4138413)

significant 'yellow flags'[6] for chronicity and disability. They should have access to a Combined Physical and Psychological Programme (CPP), in line with the NICE guidelines. (See **Appendix 3** for a detailed description of a CPP programme). Patients with on-going pain and related disability for **more than a year** should be referred to a pain specialist where they can be offered a range of treatments, medication review and various specialised interventions - refer to the 18 week chronic pain pathway[7] for guidance on the patient pathway for those with chronic pain.

Surgery (spinal fusion) should only be considered for the small number of patients who have completed an optimal course of care, including a CPP programme. If after this their back pain is still severe, they should consider surgery.

> *In a large spinal service in the North East, only 4% of patients triaged as non-specific low back pain patients were re-referred to any service in secondary care within two years. An audit of these patients in primary care revealed substantial return to work, significant reduction in consultations with the general practitioner and substantial reduction in prescription / over the counter medication.*
>
> *A second unit has recorded that, from initial GP referral, 30% of patients will be discharged without reaching an outpatient appointment (instead, receiving treatment in primary care settings). Of the remaining patients, around 60% could be managed by specially trained practitioners in primary care where their patient history, examination and special investigations have shown that surgery would be inappropriate. Only 4-5% of GP spinal referrals will normally need surgery.*

ii. Radicular pain

The next largest group are those patients with **radicular pain**, (i.e., pain in the leg plus neurological symptoms and signs). These fall mainly into two groups:

- acute radicular compression by a prolapsed intervertebral disc
- spinal stenosis

MRI scanning is normally obtained for these patients and this can be requested by the triage and treatment practitioner who should receive training in interpretation of scans and have access to the reporting consultant radiologist. Referring practitioners should have access to pain management, orthopaedic, imaging, psychology services and consultant surgeons.

Research shows that surgical management of disc prolapse accelerates recovery and that the benefit, disability, and improvements to quality of life in the early stages are statistically and clinically significant. It is thus important that a triage system deals with acute nerve root compression rapidly. Patients require skilled advice on the relative merits of operative and non-operative care, and this should be **delivered within eight weeks** from onset of the pain. Many patients' symptoms resolve spontaneously but others suffer considerably. Patients' individual circumstances and clinical progress are very important in this decision making process.

[6] New Zealand yellow flags: www.nzgg.org.nz/guidelines
[7] www.18weeks.nhs.uk/Content.aspx?path=/achieve-and-sustain/Specialty-focussed-areas/Cross-specialty

Patients with intervertebral disc prolapse for whom surgery is not initially indicated may benefit from interlaminar epidural steroid or nerve root injection. Pain clinics may accept patients from a trusted referring source with consistent findings on an MRI scan without an intervening assessment appointment (which saves a lot of time), while in some centres root blocks are performed by radiologists, surgeons, and/or GPwSIs as part of the pathway for back pain and radicular symptoms. Pain clinics will also be able to provide appropriate pain management.

Patients with spinal stenosis also require skilled advice on the relative merits of operative and non-operative care, and patients who may benefit from surgery should be referred for a surgical opinion promptly.

iii. Potentially serious pathology

The most clinically serious (but also the smallest) group of spinal patients are those with **potentially serious pathology**. Cauda Equina Syndrome (CES), cancer of the spine (especially metastatic disease), fragility (osteoporotic) fractures, and infection are the principal pathologies under consideration. These patients need to be identified swiftly (using the red flags, as there is international recognition for these). CES is an emergency and requires access to 24 hour MR imaging (A recent BMJ Paper on CES provides additional information on managing this condition[8]). Detailed guidance on the management of spinal metastases has recently been issued by NICE:

- **NICE Clinical Guideline 75 - Metastatic spinal cord compression:** Diagnosis and management of patients at risk of or with metastatic spinal cord compression (Nov 2008)[9]

iv. Spinal deformity

The fourth group comprises the **spinal deformity** patients (adults and children). This group includes patients with scoliosis and kyphosis who require coordinated diagnostic and therapeutic support services, both for children and adults with scoliosis. It is essential that scoliosis services are made available for the population, as demand for these services is growing significantly and is likely to continue to increase in the coming years, particularly for adult spinal deformity. The DH has recently produced 'top tips' for the effective organisation of scoliosis services and these are shown in **Appendix 4**. The National Definition Set for these patients can also be found in **Appendix 5**.

v. Spinal trauma

The creation of regional trauma networks will provide the NHS with a framework measurement against which services can secure improvements in survival and better outcomes and care for patients suffering life threatening and major complex injuries, including those sustaining **spinal trauma**. These networks are currently under development

[8] 'Cauda Equina syndrome' Lavy C, James A, Wilson-MacDonald J, Fairbank J.. BMJ 2009; 338:936: www.bmj.com/cgi/content/extract/338/mar31_1/b936
[9] http://guidance.nice.org.uk/CG75

and will be dependent on provision of services locally. Patients with spinal cord injury need very careful management, with particular attention to prevention of avoidable life threatening complications. At present, local provision for patients with a spinal cord injury varies. When the trauma networks are established, every hospital receiving trauma should have a defined relationship with the appropriate spinal cord injury centre to provide advice, outreach care and education in the needs and immediate management of these vulnerable patients. Those with a spinal cord injury should be admitted to a spinal treatment centre within 24 hrs or as soon as possible.

vi. Other spinal pathologies

Lastly, there will be a small group of patients with **other spinal pathologies** who require specific pathways of treatment. These include congenital and acquired spinal stenosis, spondylolisthesis, and instability, inflammatory spondylitis with/without deformity, rheumatoid arthritis and metabolic disorders. These patients should be referred to a centre for spinal services and may require a multi-disciplinary approach.

Services required to meet the needs of these patients

Fundamental to providing the best quality services and experience for patients is to not only ensure that the right services are available for all categories of patients, but also that there are robust systems in place at all primary access points to ensure effective triage, in particular, to identify the first three categories of patients.

In order to meet the needs of all these groups of patients, it is suggested that local spinal service teams (clinicians and managers) work alongside their lead commissioners to create a clinical network for the provision of spinal services. This needs to go beyond the management of degenerative conditions and include a focus on cancer, trauma and deformity.

The clinical network will be able to advise on developing and delivering a cohesive set of services that includes all Trusts providing either neurosurgery or orthopaedics (or both). For the network to operate effectively, clinicians and managers should work together to enable understanding of the breadth of facilities and support required to provide a comprehensive spinal surgical service, including proper investment in the elements of a multi-disciplinary team, networks and infrastructure. To support this, it would be helpful to identify a clinical lead and it is suggested that this clinician co-chairs the network meetings. Given the significance of rapid triage (as set out above) and the need to ensure appropriate management of emergencies, it is important that all Trusts providing orthopaedic or neurosurgical services participate in the network, even those not providing spinal surgery, to ensure that elective patients are appropriately triaged and referred to the right services within the network and that spinal emergencies are adequately assessed and managed. Tasks that the clinical network may wish to consider include the following:

1. **Identify (and designate) a lead centre (or centres) for the provision of specialist spinal surgery to the local population**. Care for patients requiring specialist spinal surgery is low volume and high cost, and thus should be concentrated in specialist centres, although it is recognised that other centres in the area may also offer some of these services and facilities. The specialist centre/s should:

    - Provide an emergency rota for trauma and access to emergency and urgent spine services, for example for spinal cord compression;

    - Have MRI available 24/7 supported by good tele-radiology links with other centres;

    - Implement the guidelines and recommendations from the Spinal Specialised Services National Definition Set[10], (These can be found in **Appendix 5**) which identifies:

      Six areas of complex spinal surgery:

      i. Deformity (i.e. structural scoliosis, kyphosis, vertebral anomalies and severe spondylolisthesis)
      ii. Reconstruction (tumour, infection and spinal fracture)

[10] Specialised Services National Definition Set: 6 specialised spinal services (all ages), 8th February 2007

iii. Primary cervical, primary thoracic and primary anterior lumbar surgery
iv. Revision surgery
v. Intervention for complex back pain services
vi. Palliative or curative spinal oncology surgery

- Comply with the NICE guidelines on spinal metastases, including access to specialist input on chemotherapy or radiotherapy from oncologists and radiotherapists to support patients with metastatic disease and have access to specialist advice from a sarcoma unit (see paragraph 15 above);

- Have access to expertise in infectious disease management (including microbiology services) to support the treatment of infections;

- Offer specialised services for paediatrics (if providing children's spinal surgery), such as specialist paediatric nursing, anaesthesia, intensive care and rehabilitation, including resources for anaesthesia for MRI and CT scanning in small children;

- Deliver specialist services for scoliosis patients, including a Child Development Centre for paediatric patients (if providing children's spinal surgery), appropriate imaging and spinal cord monitoring for surgery in line with the Spinal Surgery National Definition Set (SSNDS). (The SSNDS for both adults and children can be found in **Appendix 5** and cover both scoliosis and spinal cord injury services);

- Provide a comprehensive service for patients with spinal cord injuries in line with the SSNDS, above. This should include assessment by a multi-disciplinary team, including spinal surgeons and specialists in spinal cord injury rehabilitation;

- Provide vertebroplasty/kyphoplasty and related procedures for patients with painful benign (osteoporotic) and malignant spinal fractures where indicated, including input from specialists in bone metabolism;

- Create links with other providers within their area, providing outreach and specialist advice and expertise as required.

2. **Agree which services should be provided only by the specialist centre/s** (technically complex spinal surgery and/or high risk of major complications) and which should be provided by non-specialist surgical services (routine procedures with low risk of major complications). **Appendix 6** summarises the national consensus on specialist and non-specialist surgery but this may be subject to local variation, based on clinical practice within the local area.

3. **Ensure all organisations providing spinal surgery have links with the lead centre/s, with clear clinical governance links across providers.** Single-handed spinal surgeons should not be working in isolation. Wherever possible, spinal surgeons should work in teams within organisations, ideally with more than one surgeon in each site. They should be working as part of a clinical network and the network will have responsibility for

governance arrangements to support these practitioners (both clinically and operationally) and for succession planning. The network will promote:

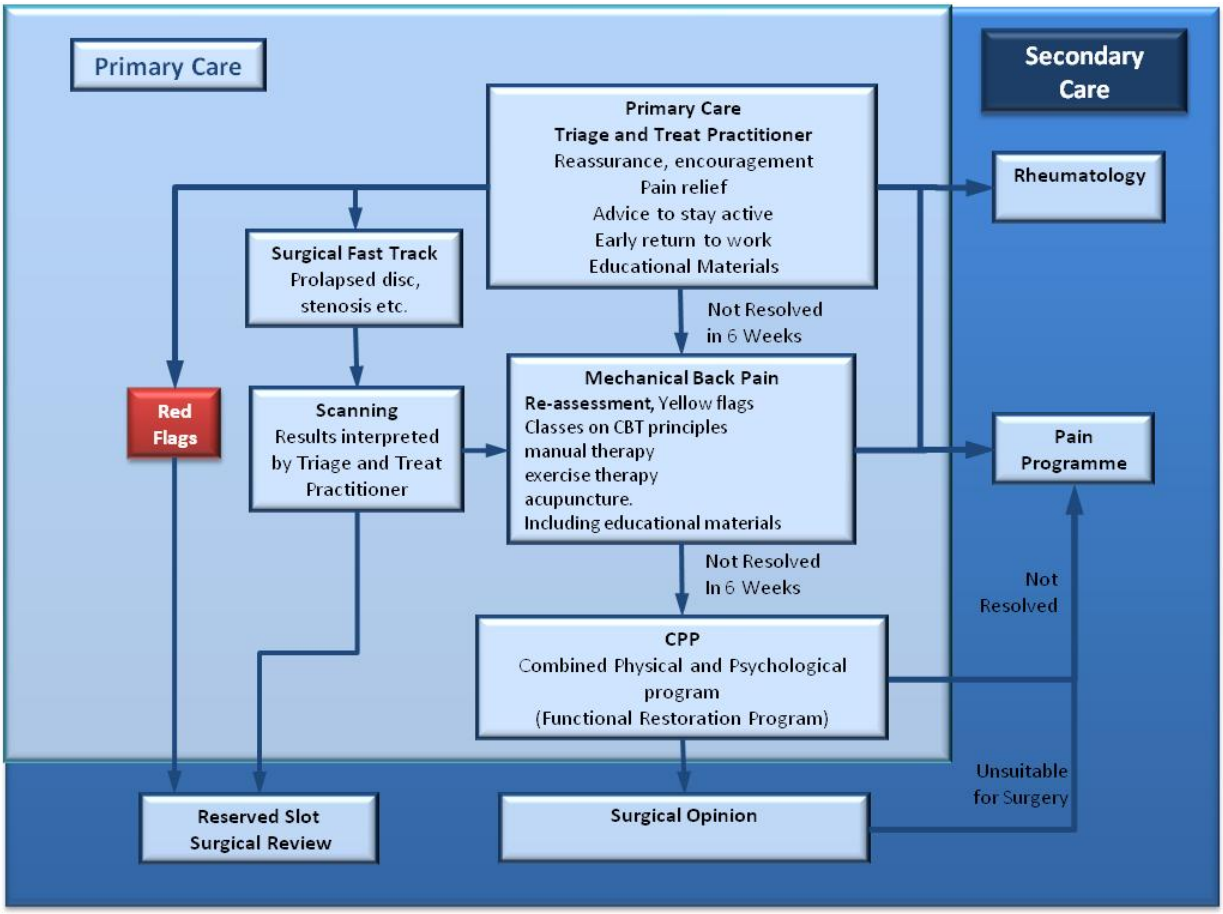
- Common network-wide audited standards of provision of medical, nursing, imaging and operative facilities;
- The development of in-house medical and nursing expertise for all hospitals in the area with an emergency department in the assessment and management of the unstable spine and the neurologically threatened or compromised patient.

4. **Effective triage is essential to deliver the pathways of care for elective spinal conditions efficiently and expeditiously, allowing fast tracking of patients to appropriate treatments.** In order to deliver effective triage, the network should consider developing the role of local 'triage and treat practitioners' (for example a nurse practitioner or extended scope physiotherapist) who are highly trained in triage and assessment and also trained in indications for MRI and interpretation, together with the skills to deliver educational material effectively. An example job description for a physiotherapy consultant and nurse specialist in spinal pain can be found in **Appendix 7**. The practitioners refer for diagnostics, therapies, surgery and CPP. The relationship of these practitioners with other specialists is crucial and close working will allow fast track appointments with surgeons, pain specialists, rheumatologists and others. Joint audit and governance arrangements are required and, in order to monitor practice, should include the specialist teams.

5. **Review the guidelines and recommendations contained with the Musculoskeletal Framework and implement as appropriate.** Specifically, the network should plan for a cohesive set of spinal services that triages patients at the point of referral and ensures that those with low back pain are seen by appropriate practitioners, freeing spinal surgeons to treat those patients requiring specialist surgery, integrating and co-ordinating care across organisational boundaries. NHS Quality Improvement Scotland (QIS) provides very useful information on the organisation of services for patients with acute low back pain[11].

[11] www.nhshealthquality.org

Organisational chart for Lower Back Pain services



6. **Ensure all hospitals receiving trauma have on site expertise in the assessment and management of acute spinal conditions both in the emergency department and on the inpatient ward.** They should also have 24/7 access to CT scanning, seven-day per week access to MRI, together with a defined written protocol to access 24/7 MRI scanning and have an established tele-radiology connection to a spinal centre. They should have the expertise to manage patients with acute spinal conditions either who are not fit for transfer or who have conditions appropriate for treatment in a non-specialist centre.

7. **Carry out a needs assessment for the population, mapping resources and their uses by people with spinal conditions,** including the NHS and other services outside hospital, hospital-based elective and emergency services, and use of diagnostics to understand the treatment that is required, highlighting any gaps in provision. This will inform the structure of the spinal network and align services with providers. As part of this, commissioners will wish to understand the demand for each procedure and the capacity required to meet this. An information pack is provided with this guidance giving activity information for each SHA and a suggested list of issues that commissioners and the clinical network may wish to consider in relation to current spinal activity (as defined in the information pack). The resource mapping should also include a review of the number of spinal surgeons (both orthopaedic and neurosurgeons) working in the service. Condition specific pathways and standards should be defined, for example time to surgery for intervertebral disc prolapse.

8. **Consider issues around training and education and consider how clinicians can best share training and education, audit and governance between primary and secondary care across the pathway and across organisations.** Issues that the network may wish to cover include:
   - The time available for shared clinical training and audit;
   - The assessment of spinal surgeons as defined by competence (rather than numbers of procedures undertaken alone);
   - Arrangements for post-CCT training (for example spinal fellowships and overseas postings). Two years fellowship training at post–CCT level is recommended by spinal societies;
   - The costs associated with speciality spinal training pre and post CCT (for example, courses on fresh cadaveric material are extremely expensive);
   - Mentorship of newly appointed consultants and provision of support from senior colleagues when first undertaking more complex procedures.

Concluding remarks

This report on improving the quality and effectiveness of spinal services has been developed by a clinical reference group at the request of the NHS as waiting times for spinal surgery continue to be longer than average waits across the country.

Adopting the good practice set out in this guide will assist NHS teams in organising, developing and ensuring the delivery of safe, effective and quality spinal services that meet with NICE clinical guidelines. This would create a set of services that deliver timely, clinically appropriate and cost-effective care that meets patients' needs, improves the overall quality of care they receive and enhances their general experience of the healthcare system in this area.

In order to deliver this model of high-standard and high-quality care/service for patients, it is recommended that a clinical network be established to advise on developing the right framework of services for the local population.

It is hoped that the recommendations made in this report will help local health communities organise and deliver the best quality and most effective spinal services for patients.

Appendix 1

Membership of the Spinal Taskforce & Acknowledgements

The Spinal Taskforce was formed in 2008 with representation from all the key stakeholders

Member	**Designation**
Mr John Carvell - Chair	Consultant Spinal Surgeon and British Medical Association (BMA)
Caroline Dove	NHS Elect
Piers Young	DH Musculoskeletal Team
Professor Charles Greenough	Professor in Spinal Surgery and NICE panels on MSCC and back pain
Mr Nigel Henderson	Consultant Spinal Surgeon, British Association of Spinal Surgeons (BASS) and Specialist Advisory Committee (SAC)
Mr Alistair Stirling	Consultant Spinal Surgeon, advisor on training and education - Royal College of Surgeons (RCS), British Orthopaedic Association (BOA)
Elaine Buchanan	Consultant Physiotherapist and NICE panels on MSCC and back pain
Dr Joan Hester	Consultant Anaesthetist and British Pain Society (BPS)
Dr Andrew Jackson	GP and Royal College of General Practitioners (RCGP)
Mr Jeremy Fairbank	Professor in Spinal Surgery and British Scoliosis Society (BSS)
Dr Geoff Hide	Consultant Radiologist and British Society of Skeletal Radiologists (BSSR)
Mr Tim Pigott	Consultant Neurosurgeon and Society of British Neuro-logical Surgeons (SBNS)
Susie Durrell	Consultant Physiotherapist
Maxine Foster	DH Workforce Team

For Appendices 2-7 please refer to supplementary documents:

Appendix 2	**Top tips for delivering 18 weeks for all spinal surgery**
Appendix 3	**Definition of a Combined Physical and Psychological programme (CPP) Programme in NICE Guidelines on Low Back Pain**
Appendix 4	**Top tips for the effective organisation of scoliosis services**
Appendix 5	**Spinal Specialised Services National Definition Set for both adults (part a) and children (part b)**
Appendix 6	**Summary of the national consensus on specialist and non-specialist surgery**
Appendix 7	**Example job description for a physiotherapy consultant (part a) and specialist nurse in spinal pain (part b)**