NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health and social care directorate

Quality standards

Briefing paper

Quality standard topic: Hip Fracture

Output: Prioritised quality improvement areas for development.

Date of Quality Standards Advisory Committee meeting: 27 January 2016

Contents

1 Introduction

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

1.1 Structure

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

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

1.2 Development source

The key development source referenced in this briefing paper is:

Hip fracture: management (2011) NICE guideline CG124

This guideline was recently reviewed and, because new evidence was identified, a decision was made (December 2015) to partially update the following sections:

- Displaced intracapsular hip fractures – total hip replacements
- Undisplaced intracapsular hip fractures

New evidence was found for the following areas but was not deemed to have an effect on current recommendations: timing of surgery; analgesia; anaesthesia; surgical approach for intracapsular fracture; trochanteric extracapsular fracture; mobilisation strategies; and multidisciplinary management.

The review did not find any new evidence related to: imaging options in occult hip fracture; planning the theatre team; stem design; subtrochanteric fracture; and patient and carer information.

The prioritisation meeting for this quality standard will not consider any new evidence, but will draw on the recommendations in the current version of CG124.

2 Overview

2.1 Focus of quality standard

This quality standard will cover the diagnosis and management of hip fracture from admission to secondary care and through to final return to the community and discharge from specific follow-up, in adults (aged 18 years and over).

It will replace the current quality standard for hip fracture.

This quality standard will not cover prevention of hip fracture because this is covered by the Osteoporosis and Falls in older people quality standards.

2.2 Definition

Hip fracture refers to a fracture occurring in the area between the edge of the femoral head and 5 centimetres below the lesser trochanter. These fractures are generally divided into two main groups. Those above the insertion of the capsule of the hip joint are termed intracapsular, subcapital or femoral neck fractures. Those below the insertion are extracapsular. The extracapsular group is split further into trochanteric (inter- or pertrochanteric and reverse oblique) and subtrochanteric.

2.3 Incidence and prevalence

Hip fracture is a major health issue in an ageing population. About 70,000 to 75,000 hip fractures occur each year and the annual cost (including medical and social care) for all UK hip fracture cases is about £2 billion. Demographic projections indicate that the UK annual incidence will rise to 101,000 in 2020, with an associated increase in annual expenditure. The majority of this expenditure will be accounted for by hospital bed days and a further substantial contribution will come from health and social aftercare. At present about a quarter of patients with hip fracture are admitted from institutional care, and about 10–20% of those admitted from home ultimately move to institutional care. About 10% of people with a hip fracture die within 1 month and about one-third within 12 months. Most of the deaths are due to associated conditions and not to the fracture itself, reflecting the high prevalence of comorbidity. Although hip fracture is predominantly a phenomenon of later life (the National Hip Fracture Database reports the average age of a person with hip fracture as 84 years

for men and 83 for women), it may occur at any age in people with osteoporosis or osteopenia.

2.4 Management

Because the occurrence of fall and fracture often signals underlying ill health, a comprehensive multidisciplinary approach is required from presentation to subsequent follow-up, including the transition from hospital to community. Management of hip fracture has improved, especially with the collaboration of teams specialising in the care of older people (using the general designation 'orthogeriatrics'). These skills are applicable in hip fracture irrespective of age, and the guidance includes recommendations that cover the needs of younger patients.

See appendix 1 for the associated care pathway and algorithms from NICE clinical guideline CG124.

2.5 National Outcome Frameworks

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

Table 1 The Adult Social Care Outcomes Framework 2015–16

Domain	Overarching and outcome measures
1 Enhancing quality of life for people with care and support needs	***Overarching measure*** 1A Social care-related quality of life** ***Outcome measures*** **People manage their own support as much as they wish, so they are in control of what, how and when support is delivered to match their needs** 1B Proportion of people who use services who have control over their daily life **Carers can balance their caring roles and maintain their desired quality of life** 1D Carer-reported quality of life** **People are able to find employment when they want, maintain a family and social life and contribute to community life, and avoid loneliness or isolation** 1I Proportion of people who use services and their carers, who reported that they had as much social contact as they would like
2 Delaying and reducing the need for care and support	***Overarching measure*** 2A Permanent admissions to residential and nursing care homes, per 100,000 population ***Outcome measures*** **Everybody has the opportunity to have the best health and wellbeing throughout their life, and can access support and information to help them manage their care needs** **Earlier diagnosis, intervention and reablement means that people and their carers are less dependent on intensive services** 2B Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into reablement/rehabilitation services* 2D The outcomes of short-term services: sequel to service *Placeholder 2E The effectiveness of reablement services* **When people develop care needs, the support they receive takes place in the most appropriate setting and enables them to regain their independence** 2C Delayed transfers of care from hospital, and those which are attributable to adult social care

3 Ensuring that people have a positive experience of care and support	***Overarching measure*** **People who use social care and their carers are satisfied with their experience of care and support services** 3A Overall satisfaction of people who use services with their care and support 3B Overall satisfaction of carers with social services *Placeholder 3E The effectiveness of integrated care* ***Outcome measures*** **Carers feel that they are respected as equal partners throughout the care process** 3C The proportion of carers who report that they have been included or consulted in discussions about the person they care for **People know what choices are available to them locally, what they are entitled to, and who to contact when they need help** 3D The proportion of people who use services and carers who find it easy to find information about support **People, including those involved in making decisions on social care, respect the dignity of the individual and ensure support is sensitive to the circumstances of each individual** This information can be taken from the Adult Social Care Survey and used for analysis at the local level.
4 Safeguarding adults whose circumstances make them vulnerable and protecting from avoidable harm	***Overarching measure*** 4A The proportion of people who use services who feel safe** ***Outcome measures*** **Everyone enjoys physical safety and feels secure** **People are free from physical and emotional abuse, harassment, neglect and self-harm** **People are protected as far as possible from avoidable harm, disease and injuries** **People are supported to plan ahead and have the freedom to manage risks the way that they wish** 4B The proportion of people who use services who say that those services have made them feel safe and secure
Alignment with NHS Outcomes Framework and/or Public Health Outcomes Framework * Indicator is shared ** Indicator is complementary Indicators in italics in development	

Table 2 NHS Outcomes Framework 2015–16

Domain	Overarching indicators and improvement areas
1 Preventing people from dying prematurely	***Overarching indicators*** 1a Potential Years of Life Lost (PYLL) from causes considered amenable to healthcare i Adults 1b Life expectancy at 75 i Males ii Females
2 Enhancing quality of life for people with long-term conditions	***Overarching indicator*** 2 Health-related quality of life for people with long-term conditions** ***Improvement areas*** **Ensuring people feel supported to manage their condition** 2.1 Proportion of people feeling supported to manage their condition **Improving functional ability in people with long-term conditions** 2.2 Employment of people with long-term conditions*, ** **Enhancing quality of life for carers** 2.4 Health-related quality of life for carers**
3 Helping people to recover from episodes of ill health or following injury	***Overarching indicators*** 3b Emergency readmissions within 30 days of discharge from hospital* ***Improvement areas*** **Improving outcomes from planned treatments** 3.1 Total health gain as assessed by patients for elective procedures *i Physical health-related procedures* **Improving recovery from injuries and trauma** *3.3 Survival from major trauma* **Improving recovery from fragility fractures** 3.5 Proportion of patients recovering to their previous levels of mobility/walking ability at i 30 and ii 120 days **Helping older people to recover their independence after illness or injury** 3.6 i Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into reablement/rehabilitation service* ii Proportion offered rehabilitation following discharge from acute or community hospital

4 Ensuring that people have a positive experience of care	***Overarching indicators*** 4a Patient experience of primary care i GP services ii GP Out-of-hours services 4b Patient experience of hospital care 4c *Friends and family test* *4d Patient experience characterised as poor or worse* *I Primary care* *ii Hospital care* ***Improvement areas*** **Improving people's experience of outpatient care** 4.1 Patient experience of outpatient services **Improving hospitals' responsiveness to personal needs** 4.2 Responsiveness to inpatients' personal needs **Improving people's experience of accident and emergency services** 4.3 Patient experience of A&E services
5 Treating and caring for people in a safe environment and protecting them from avoidable harm	***Overarching indicators*** *5a Deaths attributable to problems in healthcare* *5b Severe harm attributable to problems in healthcare* ***Improvement areas*** **Reducing the incidence of avoidable harm** *5.3 Proportion of patients with category 2, 3 and 4 pressure ulcers* *5.4 Hip fractures from falls during hospital care* **Improving the culture of safety reporting** 5.6 Patient safety incidents reported
Alignment with Adult Social Care Outcomes Framework and/or Public Health Outcomes Framework * Indicator is shared ** Indicator is complementary Indicators in italics in development	

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

Domain	Objectives and indicators
1 Improving the wider determinants of health	***Objective*** Improvements against wider factors that affect health and wellbeing and health inequalities ***Indicators*** 1.18 Social isolation* 1.19 Older people's perception of community safety
2 Health improvement	***Objective*** People are helped to live healthy lifestyles, make healthy choices and reduce health inequalities ***Indicators*** 2.24 Injuries due to falls in people aged 65 and over
4 Healthcare public health and preventing premature mortality	***Objective*** Reduced numbers of people living with preventable ill health and people dying prematurely, whilst reducing the gap between communities ***Indicators*** 4.11 Emergency readmissions within 30 days of discharge from hospital* 4.13 Health-related quality of life for older people 4.14 Hip fractures in people aged 65 and over
Alignment with Adult Social Care Outcomes Framework and/or NHS Outcomes Framework * Indicator is shared ** Indicator is complementary Indicators in italics in development	

3 Summary of suggestions

3.1 Responses

In total 17 stakeholders responded to the 2-week engagement exercise 26/11/15 – 10/12/16.

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

Full details of all the suggestions provided are given in appendix 5 for information.

Table 4 Summary of suggested quality improvement areas

Suggested area for improvement	Stakeholders
Analgesia • Pain assessment and analgesia • Immediate analgesia • Nerve blocks	RCEM, SCM, RCA, BGS, AGILE
Surgery • Timing of surgery • Sedation during regional anaesthesia • Surgical procedures (total hip replacement, cemented arthroplasty, cement implantation syndrome)	 RCEM, SCM, RCA, RCP SCM, BGS
Mobilisation strategies post-surgery • Mobilisation post-surgery	SCM, RCP
Multidisciplinary management • Hip fracture programme • Seven day rehabilitation • Early supported discharge • Screening for delirium	SCM, CSP, BGS, AGILE, RCP
Patient and carer information • Good quality of information • Involvement of carers	SCM
Other areas • Falls prevention • Admission • X-ray within 60 minutes of arrival • Fracture classification • Lateral radiograph • Fixation devices • Hip orthoses following surgery • Constipation • Intraoperative and perioperative care • Transition to community rehabilitation • Ward culture and environment	SCM, RCEM, BAPO, RCA, S&CR, CSP, S&NUK Ltd, RCP

AGILE, Chartered Physiotherapists working with older people
BAPO, British Association of Prosthetics and Orthotists
BGS, British Geriatrics Society
CSP, Chartered Society of Physiotherapy
NHS England
RCA, Royal College of Anaesthetists
RCEM, Royal College of Emergency Medicine
RCP, Royal College of Physicians
SCM, Specialist Committee Member
S&CR, Society & College of Radiographers
S&NUK Ltd, Smith & Nephew UK Ltd

3.2 Identification of current practice evidence

Bibliographic databases were searched to identify examples of current practice in UK health and social care settings; 53 studies were identified for this topic. In addition, current practice examples were suggested by stakeholders at topic engagement (44 studies) and internally at project scoping (3 studies).

Of these studies, 21 were assessed as having potential relevance to this topic and the suggested areas for quality improvement identified by stakeholders (see appendix 3). A summary of relevant studies is included in the current practice sections for each suggested area of improvement.

4 Suggested improvement areas

4.1 Analgesia

4.1.1 Summary of suggestions

Pain assessment and analgesia

Stakeholders suggested pain assessment as a key improvement area before and after surgery. This is because pain can have detrimental effects in older people with hip fracture including delirium. Establishing the patient's level of pain can lead to appropriate pain control.

Immediate analgesia

Stakeholders highlighted that pre-operative pain control starting as early as possible is vital for patients. This is a very memorable part of the patient journey especially when pain control is inadequate. The importance of analgesia has been recognised by the World Health Organisation which has identified analgesia as a fundamental human right.

Nerve blocks

Stakeholders suggested the use of femoral nerve block and fascia iliaca compartment block for pain relief. Nerve blocks can improve pain control and reduce the need for opiate analgesia which is a risk factor for delirium.

4.1.2 Selected recommendations from development source

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

Table 5 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Pain assessment and analgesia	**Analgesia** NICE CG124 Recommendation 1.3.1
Immediate analgesia	**Analgesia** NICE CG124 Recommendation 1.3.2
Nerve blocks	**Analgesia** NICE CG124 Recommendation 1.3.6

Analgesia

NICE CG124 Recommendation 1.3.1

Assess the patient's pain:

- immediately upon presentation at hospital **and**
- within 30 minutes of administering initial analgesia **and**
- hourly until settled on the ward **and**
- regularly as part of routine nursing observations throughout admission.

NICE CG124 Recommendation 1.3.2

Offer immediate analgesia to patients presenting at hospital with suspected hip fracture, including people with cognitive impairment.

NICE CG124 Recommendation 1.3.6

Consider adding nerve blocks if paracetamol and opioids do not provide sufficient preoperative pain relief, or to limit opioid dosage. Nerve blocks should be administered by trained personnel. Do not use nerve blocks as a substitute for early surgery.

4.1.3 Current UK practice

Pain assessment and analgesia

According to the National Hip Fracture Database Annual Report (2015)[1] 76% of hospitals routinely use a pain score tool.

[1] National Hip Fracture Database Annual Report 2015

Immediate analgesia

According to the College of Emergency Medicine's Fractured Neck of Femur Audit (2012-13) 19% of patients received adequate pain relief within 20 minutes of admission, 27% within 30 minutes and 46% within 60 minutes of admission. Those figures are significantly below the clinical standards set by the College of Emergency Medicine.

Nerve blocks

The National Hip Fracture Database Annual Report (2015) found that 55% of hip fracture services routinely offered pre-operative femoral nerve blocks.

4.1.4 Resource impact assessment

This area was not included in the resource impact assessment for CG124. It was not identified as an area that would have a significant resource impact (>£1m in England each year).

Although further progress in this area is required, treatment with nerve blocks is reported by the hip fracture database 2015 as "simple, effective and inexpensive." Therefore no significant resource impact is anticipated.

4.2 Surgery

4.2.1 Summary of suggestions

Timing of surgery

Stakeholders suggested that patients should have surgery on the same day, or next day, from the time of arrival at the accident and emergency department. This is said to be both beneficial for the patient as they can avoid the complications associated with immobility and also cost-effective.

Sedation during regional anaesthesia

Stakeholders suggested that unmonitored sedation may cause overdose of drugs when used with regional anaesthesia, leading to general anaesthesia. This may affect cognition, increasing the likelihood of postoperative delirium.

Surgical procedures (total hip replacement, cemented arthroplasty, cement implantation syndrome)

Stakeholders suggested total hip replacement as a surgical treatment for patients who would benefit from the procedure. It was highlighted that for some patients total hip replacement is the best option as it prevents the patient having to undergo further surgery in the future and therefore has cost saving implications.

Stakeholders suggested there should be less variability in the percentage of patients receiving cemented arthroplasty for intracapsular fractures. Stakeholders said that the safety concerns relating to this procedure have been recently addressed by joint British Association of Anaesthesia and British Geriatrics Society guidelines.

Stakeholders highlighted the need to reduce the risk for cement implantation syndrome which is a rare but potentially fatal complication of cemented hip arthroplasty.

4.2.2 Selected recommendations from development source

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

Table 6 Specific areas for quality improvement

Suggested quality improvement area	Suggested source guidance recommendations
Timing of surgery	**Timing of surgery** NICE CG124 Recommendation 1.2.1 (KPI)
Sedation during regional anaesthesia	**Anaesthesia** Not directly covered in NICE CG124 and no recommendations are presented
Surgical procedures (total hip replacement, cemented arthroplasty, cement implantation syndrome)	**Surgical procedures** NICE CG124 Recommendation 1.6.2 NICE CG124 Recommendation 1.6.3 NICE CG124 Recommendation 1.6.5 Cement implantation syndrome is not directly covered in NICE CG124 and no recommendations are presented

Timing of surgery

NICE CG124 – Recommendation 1.2.1 (key priority for implementation)

Perform surgery on the day of, or the day after, admission.

Surgical procedures

NICE CG124 Recommendation 1.6.2

Perform replacement arthroplasty (hemiarthroplasty or total hip replacement) in patients with a displaced intracapsular fracture.

NICE CG124 Recommendation 1.6.3

Offer total hip replacements to patients with a displaced intracapsular fracture who:

- were able to walk independently out of doors with no more than the use of a stick **and**
- are not cognitively impaired **and**
- are medically fit for anaesthesia and the procedure.

NICE CG124 Recommendation 1.6.5

Use cemented implants in patients undergoing surgery with arthroplasty.

4.2.3 Current UK practice

Timing of surgery

The College of Emergency Medicine Fractured Neck of Femur audit report (2013)[2] reported that 72% of patients received an operation on the day of admission or the following day. This was an improvement from 2009 when the figure was 56%. However, the audit showed that 10% of patients waited three or more days for an operation.

Sedation during regional anaesthesia

The Anaesthesia Sprint Audit of Practice (2014)[3] shows considerable variation in the proportion of patients being given spinal and general anaesthesia. Some units administered anaesthesia in over 80% of cases, in others the figure was 10%. Similar variation is noted in the use of sedation, with a quarter of patients receiving it in some units and all patients receiving it in others. Overall, sedation was administered to 74% of patients having spinal anaesthesia.

Surgical procedures (total hip replacement, cemented arthroplasty, cement implantation syndrome)

The Hip Fracture Database shows that the percentage of eligible patients receiving total hip replacement has been slowly increasing in recent years. Across all units in 2014, 26% of hip replacements were total hip replacements. However, there was still variation around the country with some units reporting 0%.

The Hip Fracture Database shows that use of cemented arthroplasties for all fracture types increased from 71% in 2011 to 82% in 2014.

Olsen et al (2014)[4] report that between 2005 and 2012, the National Reporting and Learning System received 62 reports that clearly describe death or severe harm associated with the use of cement in hip hemiarthroplasty for fractured neck of femur. There was one such incident for every 2,900 hemiarthroplasties for fractured neck of femur during the period. Of the 62 reports, 41 patients died, 14 were resuscitated from cardiac arrest and 7 from periarrest. Most reports (55/62, 89%) describe acute deterioration occurring during or within a few minutes of cement insertion. The vast majority of deaths (33/41, 80%) occurred on the operating table.

The Anaesthesia Sprint Audit of Practice (2014) indicates that bone cement implantation syndrome (BCIS) is not uncommon after the insertion of cemented prostheses. Possible BCIS events were recorded in 19% of cases, with reactions

[2] http://www.rcem.ac.uk/Shop-Floor/Clinical%20Audit/Previous%20Audits
[3] http://www.nhfd.co.uk/20/hipfractureR.nsf/vwContent/asapReport/$file/onlineASAP.pdf
[4] Bone cement implantation syndrome in cemented hemiarthroplasty for femoral neck fracture: incidence, risk factors, and effect on outcome. British journal of anaesthesia 113 (5): 800-6 (2014)

involving severe hypoxia and/or hypotension, or cardiovascular collapse in 2.7% and 0.5% of operations respectively.

4.2.4 Resource impact assessment

The number of operations performed for people with a hip fracture having surgery on the day of, or the day after, admission continues to increase (currently 72.1% from 65% three years ago). However the hip fracture database indicates wide variations across the country (14.7% to 95.3%) and so there will be a resource impact in some areas.

Performing surgery on the day of, or the day after admission can only be achieved by creating additional theatre capacity. There will be no additional activity, therefore costs will impact on the provider. The cost of an additional theatre list is estimated to be £1,128, comprising both pay and non-pay costs. This is detailed in the costing template for CG124. The costing report states that clinical opinion is that a maximum of two hip procedures can be performed in a 4-hour theatre list. The additional annual cost is estimated as follows:

- For England: £6.9m based on 6,084 additional theatre lists.
- For an average sized clinical commissioning group of 255,000 people: around £34,000 based on 30 additional theatre lists.

The costs may be offset by additional income from best practice tariff, which is made up of two components: a base tariff and a conditional payment. The base tariff is payable for all activity irrespective of whether the characteristics of best practice were met. The conditional payment is payable if all seven characteristics (one of which is ‘time to surgery within 36 hours’) are achieved. The conditional payment is £1,339 for 2015/16. Resource impact will vary according to local performance.

There should be no significant resource impact from people with displaced intracapsular fracture receiving cemented arthroplasty because current use is high. The costing report for CG124 includes a provider cost of £2,860 for cemented implants and £2,923 for uncemented implants.

Performing arthroplasty (hemiarthroplasty or total hip replacement) is estimated to result in significant savings for providers because there is a significantly lower reoperation rate compared with internal fixation. The costing template and report show a provider cost of £9,872 for arthroplasty and a cost of £12,623 for internal fixation including initial and follow-up surgery. The annual saving based on current use of arthroplasty of 92% and future use of 100% is estimated as follows:

- For England: £6m.

- For an average sized clinical commissioning group of 255,000 people: around £30,000.

There may be a resource impact if the number of people receiving a total hip replacement is increased from the current level of 26%.

4.3 Mobilisation strategies post-surgery

4.3.1 Summary of suggestions

Mobilisation post-surgery

Stakeholders highlighted that all previously mobile patients should be aided to get out of bed the day after surgery as this has beneficial effects on rehabilitation following hip fracture. This should include an assessment by a physiotherapist to plan initial mobilisation.

Stakeholders also suggested the use of a standardised method of measuring functional mobility over the first three days after surgery. This can predict the outcome of the operation and ensure timely referral to the hip fracture rehabilitation programme.

4.3.2 Selected recommendations from development source

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

Table 8 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Mobilisation post-surgery	**Mobilisation strategies** NICE CG124 Recommendation 1.7.1

Mobilisation strategies

NICE CG124 Recommendation 1.7.1

Offer patients a physiotherapy assessment and, unless medically or surgically contraindicated, mobilisation on the day after surgery.

4.3.3 Current UK practice

Mobilisation post-surgery

The National Hip Fracture Database shows variation in the extent of early mobilisation. Overall, mobilisation on the same day or the day after surgery was achieved in 73% of patients. However, there were 21 units where less than half of patients were mobilised in the same period.

Northumbria Healthcare NHS Trust has implemented a hip fracture programme with 12 quality targets, one of which was early mobilisation of patients following surgery. The aim was to mobilise 95% of patients within 24 hours of hip surgery and 10% on the same day as surgery. The programme resulted in a drop in the 30 day mortality rate for hip fracture patients from 14% to 8%[5].

4.3.4 Resource impact assessment

The costing report for CG124 calculated that the annual cost of increasing mobilisation strategies for all people having hip fracture surgery is:

- For England: £4.4 million
- For an average sized clinical commissioning group of 255,000 people: around £22,000

This is based on the cost of physiotherapy and occupational therapy for each patient and assumes a current achievement of 70% increasing to 90% in the future. Expert opinion acknowledged that early mobilisation strategies may involve higher personnel costs (linked to providing physiotherapy over the entire week, including weekends and public holidays). However, there should be cost savings associated with an earlier recovery of ability to transfer and step without the help of a person or walking aid.

[5] http://www.csp.org.uk/news/2015/05/16/bmj-award-recognises-northumbria-trusts-cut-hip-fracture-mortality

4.4 Multidisciplinary management

4.4.1 Summary of suggestions

Hip fracture programme

Stakeholders suggested that all patients should enter a hip fracture programme. This should include input from specialists such as an orthogeriatrician, physiotherapist and anaesthetist. The multidisciplinary input is important as most patients are elderly and have complex medical issues.

They also suggested that information about the care and outcome should be entered in the National Hip Fracture Database.

Seven day rehabilitation

Stakeholders suggested that patients should receive the same level of care regardless of the day of the week. This can have a positive impact on recovery and shorten the length of hospital stay.

Early supported discharge

Stakeholders suggested that early supported discharge for suitable patients reduces length of acute stay and improves patient satisfaction without significantly increasing the risk of re-admission.

Screening for delirium

Stakeholders suggested that patients with hip fracture have a high risk of delirium which is often poorly recognised and managed. Patients with delirium have more complications, longer hospital stays and poorer outcomes.

4.4.2 Selected recommendations from development source

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

Table 9 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Hip fracture programme	**Multidisciplinary management** NICE CG124 Recommendation 1.8.1
Seven day rehabilitation	**Multidisciplinary management** Not directly covered in NICE CG124 and no recommendations are presented
Early supported discharge	**Multidisciplinary management** NICE CG124 Recommendation 1.8.4
Screening for delirium	**Multidisciplinary management** NICE CG124 Recommendation 1.8.3

Multidisciplinary management

NICE CG124 Recommendation 1.8.1

From admission, offer patients a formal, acute, orthogeriatric or orthopaedic ward-based Hip Fracture Programme that includes all of the following:

- orthogeriatric assessment
- rapid optimisation of fitness for surgery
- early identification of individual goals for multidisciplinary rehabilitation to recover mobility and independence, and to facilitate return to pre-fracture residence and long-term wellbeing
- continued, coordinated, orthogeriatric and multidisciplinary review
- liaison or integration with related services, particularly mental health, falls prevention, bone health, primary care and social services
- clinical and service governance responsibility for all stages of the pathway of care and rehabilitation, including those delivered in the community.

NICE CG124 Recommendation 1.8.4

Consider early supported discharge as part of the Hip Fracture Programme, provided the Hip Fracture Programme multidisciplinary team remains involved, and the patient:

- is medically stable and

- has the mental ability to participate in continued rehabilitation and
- is able to transfer and mobilise short distances and
- has not yet achieved their full rehabilitation potential, as discussed with the patient, carer and family.

NICE CG124 Recommendation 1.8.3

Healthcare professionals should deliver care that minimises the patient's risk of delirium and maximises their independence, by:

- actively looking for cognitive impairment when patients first present with hip fracture
- reassessing patients to identify delirium that may arise during their admission
- offering individualised care in line with 'Delirium' (NICE clinical guideline 103).

4.4.3 Current UK practice

Hip fracture programme

The National Hip Fracture Commissioners' report (2015)[6] states that 63% of hip fracture patients received care that met the best practice criteria for hip fracture programme clinical commissioning group outcome indicator. However, there is variation of practice with some clinical commissioning groups have fewer than 20% of their patients receiving this level of care.

Northumbria Healthcare NHS Trust has implemented a multidisciplinary hip fracture programme with 12 quality targets, which resulted in a drop in the 30 day mortality rate for hip fracture patients from 14% to 8%. The programme focuses on a treatment pathway that begins when people arrive at the hospital and then continues through surgery, recovery and home care[7].

Seven day rehabilitation

A survey by the British Orthopaedic Association[8] found that only a quarter of physiotherapy services were adequately staffed to see hip fracture patients on a daily basis. The same survey found the following example of best practice in seven day rehabilitation services for hip fracture patients.

[6] http://www.nhfd.co.uk/20/hipfractureR.nsf/NHFD2015CCGreport.pdf
[7] http://www.csp.org.uk/news/2015/05/16/bmj-award-recognises-northumbria-trusts-cut-hip-fracture-mortality
[8] BOA, Getting right first time, March 2015

The South Warwickshire NHS Foundation Trust set up enhanced recovery program in 2004. The key characteristic of the services is that following discharge nurses and physiotherapists deliver hospital care in the patient's own home and the patient remains under the care of the orthopaedic consultant (rather than their GP) even though they are in the community. Also, patients are given a contact number to call and are treated as appropriate without having to contact their GP or use A&E. The service, which runs from 8am-4pm seven days a week, treats elective arthroplasty patients and selected trauma patients (typically neck of femur fractures). The team also administers intravenous antibiotics in the community to treat infections. The most recent survey showed 97.8% were "satisfied" or "very satisfied" with the service and the cost of setting up and running the service was again significantly less than the income generated by reducing the numbers of beds, numbers of re-admissions and increasing the number of operations. By changing to this model, the trust went from delivering 400 joints through 30 beds to 800 joints through 18 beds. Thereby enabling the trust to manage its own 18 week target without recourse to waiting list initiatives. The new enhanced recovery process also delivered an average saving of £1,000 per joint replacement meaning that the trust made an additional £800,000 while only expending £307,000 to run the unit.

Early supported discharge

The National Hip Fracture Database Annual Report 2015 showed that only 48% of hospitals reported having an early supported discharge programme. Hip fracture programme teams have a limited role in monitoring or influencing their patients' post-discharge care with only 3% of hospitals having community team representation at clinical governance meetings.

The National Hip Fracture Database Annual Report 2015 cited Wirral University Teaching Hospital NHS Trust which has successfully introduced an early supported discharge service for hip fracture patients. This was commenced in September 2014 and has had over 100 patients through the service. The early supported discharge team assesses the hip fracture patients on the ward and then facilitates their transition home. Patients are seen initially twice a day in their own homes by the team, and then daily as they return to normal function. The team particularly work on individual patient-centred goals such as mobilising to the local shops, stairs practice to enable upstairs living, car transfers so that they can go out with family, progression in mobility to allow attendance at family events and even practising golf swings. Length of stay for this group of patients (people admitted from their own home, with a mental test score of 9/10 or 10/10) has improved from 23 days to approximately 10 days. This has had an impact on the overall length of stay for all the hip fracture patients. Feedback from both patients and their carers has been 100% positive.

Screening for delirium

No published studies on current practice were highlighted for this suggested area for quality improvement.

4.4.4 Resource impact assessment

The costing report for CG124 states that the increased costs of hospital multidisciplinary rehabilitation are more than offset by:

- a reduction in the acute hospital stay costs, including those associated with complications such as delirium and pressure sores
- a reduction in the level of domiciliary social care costs as a result of increased probability of regaining pre-fracture independence in activities of daily living
- a reduction in costs for patients who avoid the need for long-term care in a residential or a nursing home.

Orthogeriatric assessment is the only component of multidisciplinary management that was anticipated to have a significant resource impact at the time CG124 was published. The National Hip Fracture Database Annual Report 2010 stated that 33% of people with a hip fracture were assessed preoperatively by a geriatrician. Future practice is estimated at 90%. Based on this, the additional annual cost of providing orthogeriatric assessment is estimated to be:

- For England: £4.1m
- For an average sized clinical commissioning group of 255,000 people: around £20,000

There may be a need to establish to more early supported discharge teams. The resource impact will on how much existing services can be redesigned to help organisations work towards this.

4.5 Patient and carer information

4.5.1 Summary of suggestions

Good quality information

Stakeholders suggested a need for good quality and consistent information for patients and carers. This facilitates proper consent, and encourages compliance with post operation restrictions and medication regimes to facilitate rehabilitation and discharge from hospital.

Involvement of carers

Stakeholders suggested that supporting families and carers to become involved in discharge from hospital can have an impact on rehabilitation. Families and carers can help to ensure a safe environment for discharged patients, and provide social and emotional support.

4.5.2 Selected recommendations from development source

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

Table 10 Specific areas for quality improvement

Suggested quality improvement area	Selected source guidance recommendations
Good quality information	**Patient and carer information** NICE CG124 Recommendation 1.9.1
Involvement of carers	**Patient and carer information** NICE CG124 Recommendation 1.9.1

Patient and carer information

NICE CG124 Recommendation 1.9.1

Offer patients (or, as appropriate, their carer and/or family) verbal and printed information about treatment and care including:

- diagnosis
- choice of anaesthesia

- choice of analgesia and other medications
- surgical procedures
- possible complications
- postoperative care
- rehabilitation programme
- long-term outcomes
- healthcare professionals involved.

4.5.3 Current UK practice

Good quality information

No published studies on current practice were highlighted for this suggested area for quality improvement.

Involvement of carers

No published studies on current practice were highlighted for this suggested area for quality improvement.

4.5.4 Resource impact assessment

This area was not included in the resource impact assessment for CG124. It was not identified as an area that would have a significant resource impact (>£1m in England each year).

4.6 Additional areas

Summary of suggestions

The improvement areas below were suggested as part of the stakeholder engagement exercise. However they were felt to be unsupported by available guideline recommendations, outside the scope of this quality standard or requiring further discussion by the Committee to establish potential for statement development.

There will be an opportunity for the QSAC to discuss these areas at the end of the session on 27 January 2016.

Falls prevention

Stakeholders suggested the patients who fall and fracture have a higher chance of further falls and re-fracture. This area will be covered by the falls prevention quality standard.

Admission

A stakeholder suggested that 98% of patients should be admitted to hospital within 4 hours of arrival to accident and emergency services. This suggestion is not contained within the development source (NICE CG124).

X-ray within 60 minutes of arrival

A stakeholder felt that 75% of patients should be offered an X-ray within 60 minutes of arrival or triage whichever is the earliest. This suggestion is not contained within the development source (NICE CG124).

Fracture classification

A stakeholder suggested fracture classification to differentiate the clinical differences between stable and unstable hip fractures. The classification can provide direction about appropriate surgical treatments. This suggestion is not contained within the development source (NICE CG124).

Lateral radiograph

A stakeholder highlighted the use of lateral cardiograph for the management of intra-capsular proximal femoral fractures. This suggestion is not contained within the development source (NICE CG124).

Fixation devices

A stakeholder felt that extramedullary and intramedullary fixation devices should equally be considered as treatment options for trochanteric fractures. This suggestion is not contained within the development source (NICE CG124).

Hip orthoses following surgery

A stakeholder suggested that hip orthoses can prevent postoperative dislocation as these braces can restrict movement of hip joint to a safe range of motion. This suggestion is not contained within the development source (NICE CG124).

Constipation

A stakeholder felt that the avoidance of constipation is important especially for older patients as they can become confused. This suggestion is not contained within the development source (NICE CG124).

Intraoperative and perioperative care

A stakeholder suggested good intraoperative care to re-enabling patients after surgery. The availability of high dependency care perioperatively was also suggested as it can reduce mortality rates. Those areas are not contained within the development source (NICE CG124).

A stakeholder stated that hip fracture patients may be affected by poor intra-operative cardiovascular management, noting that the National Hip Fracture Database demonstrated widespread hypotension in hip fracture patients which may be associated with worse clinical outcomes. This suggestion is not contained within the development source (NICE CG124).

Transition to community rehabilitation

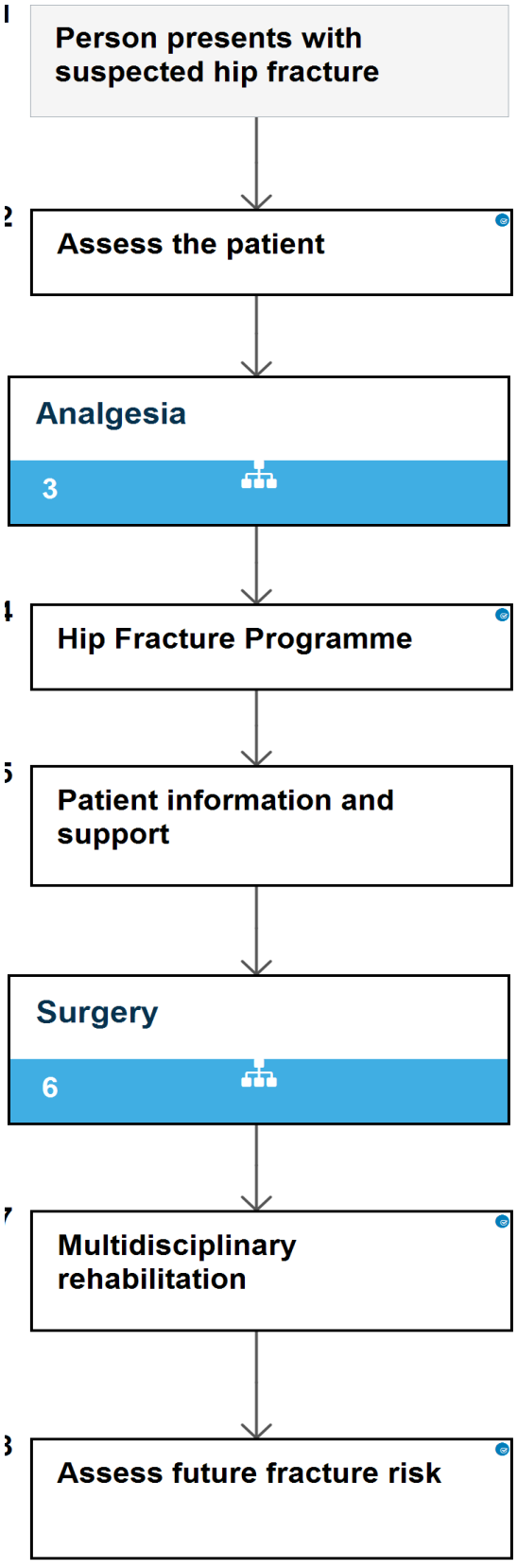
A stakeholder felt there is a need for a seamless transition between acute care and community rehabilitation services. Many discharges are delayed due to non-medical reasons. This increases the medical costs and associated risks with remaining in an acute environment. This suggestion is not contained within the development source (NICE CG124).

Ward culture and environment

A stakeholder suggested that the ward culture and environment is not conducive to rehabilitation. Patients tend to remain around their bedside for meal times and personal care which is increasing dependence and hospital length of stay. This suggestion is not contained within the development source (NICE CG124).

Appendix 1: Additional information

Hip Fracture Overview



Appendix 2: Key priorities for implementation (CG124)

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

Timing of surgery

- Perform surgery on the day of, or the day after, admission. [recommendation 1.2.1]
- Identify and treat correctable comorbidities immediately so that surgery is not delayed by:
    - anaemia
    - anticoagulation
    - volume depletion
    - electrolyte imbalance
    - uncontrolled diabetes
    - uncontrolled heart failure
    - correctable cardiac arrhythmia or ischaemia
    - acute chest infection
    - exacerbation of chronic chest conditions. [recommendation 1.2.2]

Planning the theatre team

- Schedule hip fracture surgery on a planned trauma list. [recommendation 1.5.1]

Surgical procedures

- Perform replacement arthroplasty (hemiarthroplasty or total hip replacement) in patients with a displaced intracapsular fracture. [recommendation 1.6.2]
- Offer total hip replacements to patients with a displaced intracapsular fracture who:
    - were able to walk independently out of doors with no more than the use of a stick **and**
    - are not cognitively impaired **and**
    - are medically fit for anaesthesia and the procedure. [recommendation 1.6.3]
- Use extramedullary implants such as a sliding hip screw in preference to an intramedullary nail in patients with trochanteric fractures above and including

the lesser trochanter (AO classification types A1 and A2). [recommendation 1.6.7]

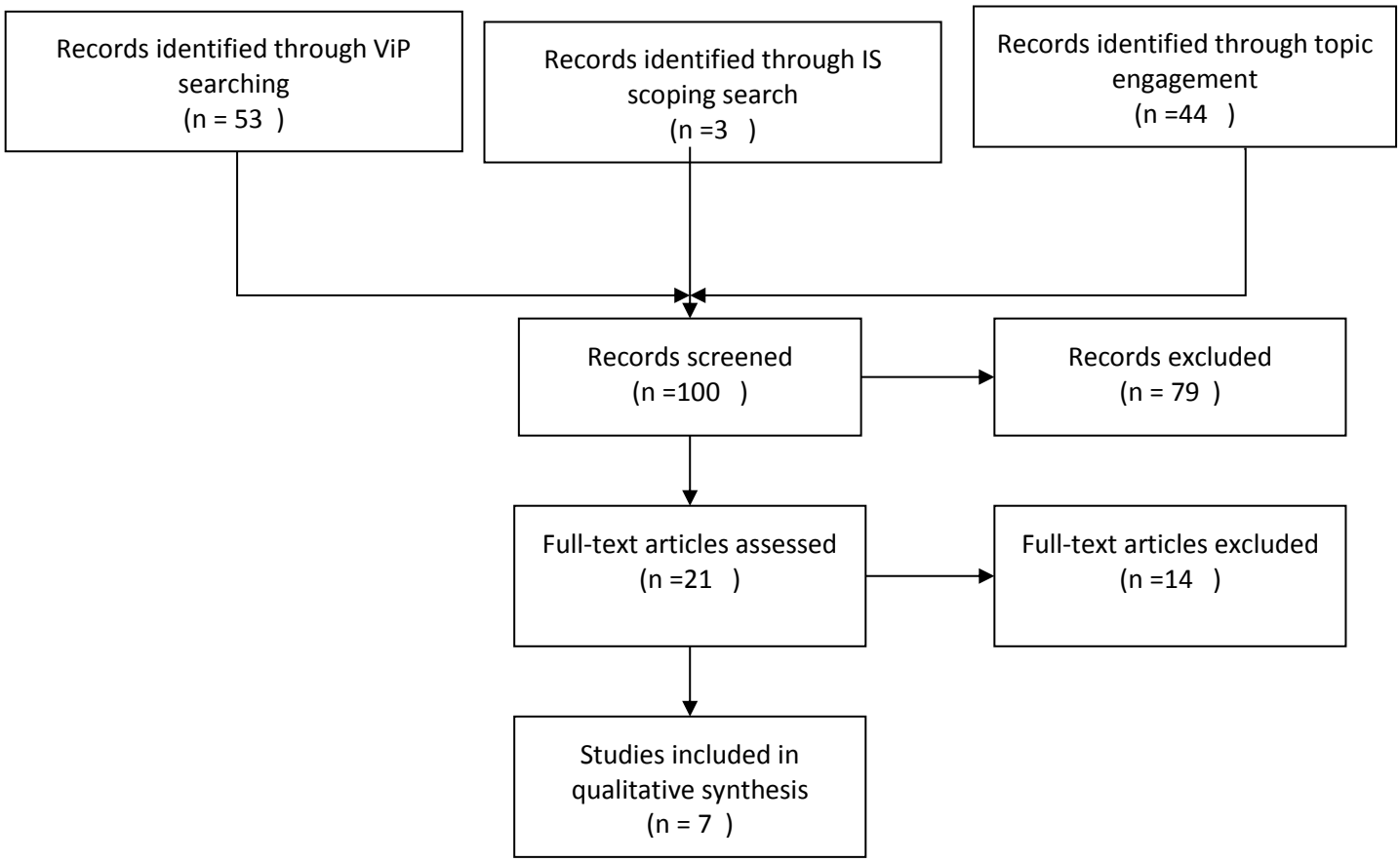
Mobilisation strategies

- Offer patients a physiotherapy assessment and, unless medically or surgically contraindicated, mobilisation on the day after surgery. [recommendation 1.7.1]
- Offer patients mobilisation at least once a day and ensure regular physiotherapy review. [recommendation 1.7.2]

Multidisciplinary management

- From admission, offer patients a formal, acute orthogeriatric or orthopaedic ward-based Hip Fracture Programme that includes all of the following:
    - orthogeriatric assessment
    - rapid optimisation of fitness for surgery
    - early identification of individual goals for multidisciplinary rehabilitation to recover mobility and independence, and to facilitate return to pre-fracture residence and long-term wellbeing
    - continued, coordinated, orthogeriatric and multidisciplinary review
    - liaison or integration with related services, particularly mental health, falls prevention, bone health, primary care and social services
    - clinical and service governance responsibility for all stages of the pathway of care and rehabilitation, including those delivered in the community. [recommendation 1.8.1]
- Consider early supported discharge as part of the Hip Fracture Programme, provided the Hip Fracture Programme multidisciplinary team remains involved, and the patient:
    - is medically stable **and**
    - has the mental ability to participate in continued rehabilitation **and**
    - is able to transfer and mobilise short distances **and**
    - has not yet achieved their full rehabilitation potential, as discussed with the patient, carer and family. [recommendation 1.8.4]

Appendix 3: Review flowchart



Appendix 4: Glossary

Hip fracture programme

Formal 'orthogeriatric' care - with the geriatric medical team contributing to joint preoperative patient assessment, and increasingly taking the lead in postoperative medical care, MDR and discharge planning.

Intraoperative

The period of time during a surgical procedure

Mobilisation

Mobilisation is the process of re-establishing the ability to move between postures (for example sit to stand), maintain an upright posture, and to ambulate with increasing levels of complexity (speed, changes of direction, dual and multi-tasking).

Multidisciplinary rehabilitation

Rehabilitation after hip fracture incorporating the following core components of assessment and management: medicine; nursing; physiotherapy; occupational therapy; social care. Additional components may include: dietetics, pharmacy, clinical psychology.

Orthogeriatrician

A care of the elderly physician with an interest in fracture care.

Perioperative

The period from admission through surgery until discharge, encompassing the preoperative and postoperative periods.

Postoperative

Pertaining to the period after patients leave the operating theatre, following surgery.

Preoperative

The period before surgery commences.

Appendix 5: Suggestions from stakeholder engagement exercise – registered stakeholders

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
1	The Royal College of Emergency Medicine	Key area for quality improvement 5 Time to surgery from date of arrival at the emergency department (patients receiving their operation same/next day and within two days)	The audit returns requested information on the date of the first operation compared to that of arrival where this could be ascertained. Nationally, this data was returned for 48% of audited patients. 63% of EDs were able to supply the information for some or all of all their audited patients.	Overall, 72% of audited cases for which the data was available received an operation on the day of admission or the following day, compared to 56% in both 2008 and 2009. 90% were operated upon within two days, compared to 79% in 2008 and 81% in 2009. Nationally, 10% of those #NOF patients for whom the date of operation could be ascertained at the time of the audit waited three or more days for an operation, reducing their chance of full recovery. However, the additional 52% of cases for which the operation date was not recorded on the audit returns is also likely to include substantial numbers of patients that waited excessive times for a first operation as it is these cases for which it will have been more difficult to ascertain the date of the operation. Nationally, there appears to be continuing improvement in the proportions of #NOF patients operated upon within two days of their admission. This improvement has been particularly marked in the poorest performing hospitals, although there is still great variation	See attached National Clinical Audit Report Fractured Neck Of Femur (2013)
2	SCM	Key area for quality improvement 2	Patients should receive surgery within 36 hours and the procedure should be according to NICE CG124	It has been consistently shown that early appropriate surgery enables the best chance of returning the patient to the optimal function	www.nhfd.co.ukcg124
3	SCM	All patients should			

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		receive prompt and appropriate surgery, including: Surgery on the day, or the day following presentation [CG124] Hip fracture fixation or arthroplasty consistent with NICE guidance [CG124] Assessment by an orthogeriatrician before any decision to manage on-operatively is made.			
4	SCM	Key area for quality improvement 4 Greater consistency in the timing of surgery for the day or day after admission	The effectiveness, patient benefit and cost-effectiveness of this remains well attested in evidence	"More patients (72.1%) now receive surgery on their first or second day in hospital but there remains unacceptable variation: different units report figures ranging from 14.7% to 95.3%."	· NICE CG124 Hip Fracture Surveillance Report, Oct 2015 · NHFD report 2015 · NICE QS 16 Statements 5 & 6
5	Royal College of Physicians	Prompt and appropriate surgery	Hip fracture is a serious and painful condition. Early surgical fixation is the most effective way of managing pain and allowing patients to mobilise, so that rehabilitation can support a return to previous levels of independence. Delay before surgery leaves people in pain and exposed to the	All patients should receive prompt and appropriate surgery, including: - surgery on the day of, or the day following presentation (CG124) - hip fracture fixation or arthroplasty consistent with NICE guidance (CG124) - assessment by an orthogeriatrician before any decision to manage non-operatively is made NHFD found that the percentage of patients	References: Royal College of Physicians, NHFD commissioners report 2014, London:RCP, 2015. http://www.nhfd.co.uk/20/hipfractureR.nsf/vwcontent/2014CCGreportFiles/$File/NHFDCCGweb.pdf?openelement

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			complications associated with immobility, including pressure ulcers, infections, delirium and thromboembolism. The frail hip fracture patient population has a high prevalence of coexisting medical problems, which mean that surgery and anaesthesia pose a significant risk. Therefore, assessment of these patients and optimisation of their fitness before surgery require a multidisciplinary approach involving an orthogeriatrician. NICE guideline CG124 recognised the benefits of early surgery, particularly in expediting a return to independence, and stated that teams should: • perform surgery on the day of, or the day after, admission • identify and treat correctable comorbidities immediately so that surgery is not delayed • schedule hip fracture surgery on a planned trauma list.	having their surgery on the day of, or the day after, admission has risen from 65.3% to 72.1% over the past 3 years. The curve is levelling off, but there remains a striking variation in performance between hospitals, from 14.7% to 95.3%. Furthermore, the variation in the delivery of NICE recommended fracture fixation remains of concern. In total, 90.7% of displaced intracapsular fractures are treated with arthroplasties, 82.3% of which are cemented. Overall, the use of cemented arthroplasties for all fracture types has increased from 71.4% in 2011 to 82.3%, with a range of 0% to 100%. Five hospitals now report more than 90% uncemented prostheses. The percentage of 'eligible' patients receiving a THR has increased this year. NHFD has now reviewed data for the 4 years since NICE CG124 first recommended THR in 2011. These figures confirm an encouraging trend from the base line of 14.9% in 2011, to 22.0% in 2012, 24.6% in 2013 and 26.1% in 2014	[Accessed 8 December 2015] National Institute of Health and Crae Excellence, NICE CG124 Hip fracture: management, London:NICE, 2010 https://www.nice.org.uk/guidance/cg124 [Accessed 8 December 2015] Royal College of Physicians, NHFD annual report 2015, London:RCP, 2015. http://www.nhfd.co.uk/nhfd/nhfd2015reportPR1.pdf [Accessed 8 December 2015]

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
				There remains considerable variation around the country, with units reporting figures that range from 0% to 63.9% of eligible patients. The eligibility criteria for THR remains debated in the clinical community and we would urge NICE to consider this further.	
6	Royal College of Anaesthetists	Key area for quality improvement 4 Conduct of sedation during regional anaesthesia	· Co-administration of sedation with regional anaesthesia may affect outcome · Evidence shows that 50% elderly hip fracture patients receive sedation at levels that cause general anaesthesia	· Unmonitored sedation may result in a relative overdose of drugs affecting cognition, increasing the likelihood of postoperative delirium · There is wide national variation in sedation practice for and monitoring of patients sedated for hip fracture repair under spinal anaesthesia	· Various sedation studies conducted by Sieber et al.10 · NICE CG10311 · ASAP national audit of UK practice3
7	The Royal College of Emergency Medicine	Key area for quality improvement 1 Patients in severe pain (pain score 7 to 10) should receive appropriate analgesia, according to local guidelines: 50% within 20 minutes of arrival or triage whichever is the earliest. 75% within 30 minutes of arrival or triage whichever is the earliest. 98% within 60 minutes of	Nationally, 31% of those audited #NOF patients for whom a pain score was recorded in the ED notes were judged to be in severe pain when first assessed in the ED. A further 33% were in moderate pain. It is therefore assumed that the remaining 36% of patients with a recorded pain score were assessed as being in little or no pain on arrival in the ED.	Nationally, 19% of all audited patients received adequate pain relief within 20 minutes of arrival in the ED, 27% within 30 minutes and 46% within 60 minutes of arrival. (These figures include the 4% of patients who were judged to have received adequate relief before arrival). No ED achieved the CEM targets of offering analgesia to 75% of patients in moderate or severe pain within 30 minutes and to 98% within 60 minutes of arrival (although some came close). Analgesia was provided slightly more quickly for those judged to be in severe pain: 22% within 20 minutes of arrival, 33%	See attached National Clinical Audit Report Fractured Neck Of Femur (2013)

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		arrival or triage whichever is the earliest.		within 30 minutes and 59% within 60 minutes. In 5% of EDs at least half of the audited patients received analgesia within 30 minutes, but in 73% of EDs at least half of the patients were still waiting for analgesia 60 minutes after arrival.	
8	The Royal College of Emergency Medicine	Key area for quality improvement 2 Patients with moderate pain (pain score 4 to 6) should be offered or receive analgesia, according to local guidelines: 75% within 30 minutes of arrival or triage whichever is the earliest. 98% within 60 minutes of arrival or triage whichever is the earliest.	Nationally the promptness of analgesia in EDs improved between 2003 and 2007; for example, median performance for the percentage of patients receiving analgesia within 30 minutes of arrival improved from 19% to 28%. Since 2007 performance has deteriorated in many EDs; the median percentage receiving analgesia within 60 minutes fell from 53% in 2007 to 40% in 2012.	Nationally, 19% of all audited patients received adequate pain relief within 20 minutes of arrival in the ED, 27% within 30 minutes and 46% within 60 minutes of arrival. (These figures include the 4% of patients who were judged to have received adequate relief before arrival). No ED achieved the CEM targets of offering analgesia to 75% of patients in moderate or severe pain within 30 minutes and to 98% within 60 minutes of arrival (although some came close). In 5% of EDs at least half of the audited patients received analgesia within 30 minutes, but in 73% of EDs at least half of the patients were still waiting for analgesia 60 minutes after arrival.	See attached National Clinical Audit Report Fractured Neck Of Femur (2013)
9	SCM	Key area for quality improvement 1 Adequate pain control at the earliest possible opportunity	Pre-op pain control is vital, starting as early as possible. It is a huge focus for patients and families, and almost certainly the most memorable part of the whole patient journey, especially if it is inadequate. Given the mortality	Approaches to pain relief seem to be varied across the country. Admittedly, as I am a layperson I do not have much access to recognised studies, but through talking to a lot of patients, it seems as if pain control procedures are not universal, or not universally applied. Obviously, with hip	http://www.rcn.org.uk/development/research_and_innovation/innovation/lightbulb_innovations/lightbulb_innovation_easing_the_pain_of_hip_fractures

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			rates that result from hip fracture, it is particularly important that analgesia is sufficient at this difficult time, right from the beginning of the process. The most abiding memories of the whole process for both patients and families will always relate to the level of discomfort and pain experienced.	fractures usually affecting older patients, there are often issues with the administering of drugs and the impact of delirium. It seems that some hospitals are having great results with various methods. Should something more specific be mentioned in the new guidelines?	
10	SCM	Key area for quality improvement 1 Peri-operative analgesia	Hip fracture is painful pre- and post-op. This is a key quality issue for the patients. Also, impacts on feeding, delirium and rehabilitation	Multiple studies have shown that pain is poorly managed before and after hip fracture. There is no panacea.	Should all be in NICE evidence review. I have attached a paper in review (in confidence).
11	Royal College of Anaesthetists	Key area for quality improvement 1 Analgesia for hip fracture	· Good evidence for analgesia improving early outcome after hip fracture. · CG124 recommends nerve block should be offered to all patients is still poorly treated. · Opioid analgesia contributes to acute delirium · There is some evidence for outcome benefit using analgesia protocol specifically for elderly patients	· The WHO have identified analgesia as a fundamental human right · Pain contributes physiological ‘stress’ to elderly patients with often severe co-morbidities, resulting in (potentially avoidable) cerebral (delirium) and cardiac ischaemia, worsening mortality and morbidity. · There is wide national variation in perioperative analgesia provision for hip fracture patients	NICE CG1241 NHFD2 and ASAP3 national audits report perioperative nerve block administration in only ~ 50% of cases, with wide national variation (8-92%). · Numerous studies have linked opioid administration to postoperative delirium in elderly patients
12	SCM	Key area for quality improvement 1 People with a hip fracture	There is emerging evidence that appropriate pain control, in the form of Fascio Iliacus blocks	This patient group is at high risk of developing delirium which impacts on experience, care and rehabilitation, thus	NICE quality standard Delirium in Adults Prevention of Delirium

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		receive prompt and effective pain management avoiding opiates	reduces the need for opiates and thus reduces the risk of delirium.	potentially lengthening stay in an acute hospital setting.	Programme Academic Unit of Elderly Care & Rehabilitation, University of Leeds, Bradford.
13	SCM	Additional developmental areas of emergent practice	There is growing deployment of neural block in A&E for enhaced early analgesia, but it may not be feasible at this point in time to incorporate a criterion into an evidence-based QS		British Orthopaedic Association and British Geriatrics Society 'The care of patients with fragility fracture ('blue book')':
14	British Geriatrics Society	Use of femoral neve blocks for pre-operative pain relief	Hip fractures are painful and distressing. Pain and opiates are both significant risk factors for delirium. Femoral nerve blocks can improve pain control and reduce the need for opiate analgesia.	The National Hip Fracture Database Annual Report 2015 found that only 55% of hip fracture services routinely offered pre-operative femoral nerve blocks. Although data is not available at patient level, this could be included as a data item on the National Hip Fracture Database.	For evidence supporting the use of femoral nerve blocks prior to hip fracture surgery, see Ritcey B, et al. Regional Nerve Blocks For Hip and Femoral Neck Fractures in the Emergency Department: A Systematic Review. Canadian Journal of Emergency Medicine, 2015. http://dx.doi.org/10.1017/cem.2015.75 For evidence of inadequate use of femoral nerve blocks, see National Hip Fracture Database Annual Report 2015. http://www.nhfd.co.uk/nhfd/nhfd2015reportPR1.pdf

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
15	AGILE	Key area for quality improvement 1 Standardised pain assessment pre and post operatively including a measure of pain intensity	There is good evidence that uncontrolled pain can have detrimental effects in older people with hip fracture including delirium.	The National Hip Fracture Database 2015 found that 76% of hospitals routinely use a pain score tool. It is essential that the effect of pain control is monitored and measured as part of best practice.	National Hip Fracture Database
16	AGILE	Key area for quality improvement 2 Standardised pain assessment pre and post operatively including a measure of pain intensity for patients who are unable to verbalise pain (dementia)	There is good evidence that uncontrolled pain can have detrimental effects in older people with dementia including delirium and limited opportunity to rehabilitate.	Over 40% of people with hip fracture have dementia or cognitive impairment and their outcomes after surgery are poorer than those without dementia. It is essential that health care professionals ensure that pain is measured using a validated pain intensity scale for those people who are unable to verbalise pain.	Enhanced rehabilitation and care models for adults with dementia following hip fracture surgery. Cochrane Library 2015
17	SCM	Key area for quality improvement 5	Total hip replacement as a surgical treatment should be available for patients sustaining displaced subcapital fractures who would benefit from the procedure	Recent data has shown only 20% of eligible patients are receiving THR - this is due to lack of provision in the NHS and patients are currently being denied optimum treatment	CG 124 www.nhfd.co.uk
18	SCM	Key area for quality improvement 2 **Total Hip Replacement provided to all appropriate patients**	Patients who pre-injury are fit and active will outlive a hemiarthroplasty, requiring further operations in a number of years. This is an increase in cost to healthcare and can have negative effects on a patients function.	Total hip replacement for certain patient groups is recommended in the NICE guidance. NHFD data clearly shows eligible patients are not being provided the most suitable treatment for them (only 26.1% of eligible patients are receiving a THR).	- NICE (2011) Hip Fracture Management - NHFD (2015) Annual Report 2015 - NICE (2012) Quality Standard 16 - SIGN (2009)
19	SCM	Key area for quality improvement 2			

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		Less variability in the percentage of patients at present receiving **cemented arthroplasty for displaced intracapsular fractures**	Cemented arthroplasty remains cost-effective in this context. Safety concerns have now been addressed by joint British Association of Anaesthesia BGS Guidelines, accepted in the CG124 surveillance review for linkage to the recommendation	NHFD data continue to show widespread variability, although a modest steady increase in overall percentage. "More patients are now offered total hip replacement (THR), but this was still only performed in26.1% of the 11,722 patients who met the clinical criteria for this procedure.	NICE CG124 Hip Fracture Surveillance Report, Oct 2015 NHFD report 2015
20	SCM	Key area for quality improvement 3 Increased percentage of eligible patients receiving **total hip replacements**	The evidence for long-term benefit and reduced re-operation rates remains compelling	"More patients are now offered total hip replacement (THR), but this was still only performed in 26.1% of the 11,722 patients who met the clinical criteria for this procedure."	NICE CG124 Hip Fracture Surveillance Report, Oct 2015 NHFD report 2015
21	British Geriatrics Society	Additional developmental area of emergent practice: Reducing risk of cement implantation syndrome	Cement implantation syndrome is a rare but potentially fatal complication of cemented hip arthroplasty (the recommended treatment for displaced intracapsular fractures, NICE CG124).	Most hip fracture services will encounter at least one death from cement implantation syndrome each year. Patients at higher risk can be identified and either counselled regarding the risk and, in some cases, it may be clinically appropriate to consider a non-cemented prosthesis. All patients receiving a cemented prosthesis should be specifically consented for this risk. There is guidance on the precise technique for cement implantation to minimise the risk and there is anecdotal evidence of variation within and between surgical units.	For incidence and risk factors for cement implantation syndrome, see Olsen F, et al. Bone cement implantation syndrome in cemented hemiarthroplasty for femoral neck fracture: incidence, risk factors, and effect on outcome. British Journal of Anaesthesia 113 (5): 800–6 (2014). For guidance on cement

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
					implantation technique, see NPSA/2009/RRR001. Rapid Response Report: Mitigating surgical risk in patients undergoing hip arthroplasty for fractures of the proximal femur.
22	SCM	**All previously mobile patients should be aided to get out of bed the day after surgery, including:** Provision of appropriate postoperative analgesia and nerve blocks [CG124] Provision of appropriate postoperative fluid resuscitation and transfusion Assessment by a physiotherapist to plan initial mobilisation or transfers [CG124]			
23	Royal College of Physicians	**Mobilisation following surgery**	Surgery seeks to control pain and allow patients to start rehabilitation. Early mobilisation, improves outcomes, reduces complications such as pressure ulcers and can	All previously mobile patients should be able to get out of bed by the day following surgery, as: - they have received appropriate postoperative analgesia and nerve blocks (CG124)	Royal College of Physicians, NHFD commissioners report 2014, London:RCP, 2015. http://www.nhfd.co.uk/20/hipfractureR.nsf/vwcontent/2014CCGreportFiles/$File/

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			expedite the patients return to their usual place of residence. In short, getting patients out of bed soon after surgery allows them to to make a rapid recovery from injury and operation. Multiple factors such as individual units' approaches to postoperative surgical care, transfusion, fluid management and physiotherapy affect their patients' ability to be mobilised promptly.	- they have received appropriate postoperative fluid resuscitation and transfusion - they have been assessed by a physiotherapist to plan initial mobilisation or transfers (CG124) The NHFD dataset introduced in April 2014 includes a new field recording whether patients were mobilised out of bed on the day after surgery. This prompt mobilisation was achieved for 73.3% of patients. In 93.8% of cases they were recorded as being mobilised with a physiotherapist. We need to question why prompt mobilisation was not possible in the remaining quarter of patients, and in particular to challenge the 21 units where fewer than half of patients were mobilised. This performance measure reflects a number of factors, including approaches to postoperative analgesia, fluid resuscitation and transfusion.	NHFDCCGweb.pdf?openelement [Accessed 8 December 2015] National Institute of Health and Crae Excellence, NICE CG124 Hip fracture: management, London:NICE, 2010 https://www.nice.org.uk/guidance/cg124 [Accessed 8 December 2015] Royal College of Physicians, NHFD annual report 2015, London:RCP, 2015. http://www.nhfd.co.uk/nhfd/nhfd2015reportPR1.pdf [Accessed 8 December 2015]
24	SCM	Key area for quality improvement 5 **Early mobilisation**	Early mobilisation has significant impacts on rehabilitation following hip fracture.	NHFD data suggest wide variation in extent of early mobilisation following hip fracture. The extent of early (e.g. day 1/ day 0) mobilisation will be a composite of the system (e.g. availability of physiotherapy), culture (nursing / patient expectations) and	NHFD data

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
				peri-operative care (are patients sufficiently analgesed, not feeling sick, not hypotensive on standing etc.)	
25	SCM	Key area for quality improvement 3	All patients should be seen daily by orthogeriatricians and physiotherapists	This again has shown to reduce mortality, improve the LOS and increase the chance patients can return to their original residence	www.nhfd.co.uk CG124
26	SCM	**All patients should receive orthogeriatrican-led multidisciplinary assessment, including:** Pre-operative assessment and optimisation for anaesthesia ad surgery Early assessment of cognition [CG42] and assessment to predict and prevent delirium [CG103] Assessment for prior malnutrition and support with nutrition while in hospital [CG32]			
27	SCM	**All patients should receive orthogeriatrican-led multidisciplinary rehabilitation,**			

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		including: Daily practice in transfers and mobilisation, supervised by a physiotherapist [CG124] Consideration for rehabilitation in their home or care home after discharge [CG124] Unified governance for the whole care pathway, including follow up of mobility and return home			
28	SCM	Key area for quality improvement 3 **The pathway to be led by a named Orthogeriatrician**	Data demonstrates that if patients are optimised pre-operatively and surgery takes place within 36 hrs of admission, prognosis and outcome are improved.	Physicians in older medicine are adept at managing the multiple co-morbidities of this patient group.	NHFD Best Practice Guidance
29	Royal College of Physicians	Orthogeriatrician-led coordinated multidisciplinary care	Many elderly fracture patients are frail and have complex medical problems. Their needs for specialist medical care and early rehabilitation are best addressed when an orthogeriatrician – a care of the elderly physician with an interest in fracture care – is fully integrated in the work of the fracture service. Advantages of such collaborative care include:	We would propose that all patients should receive orthogeriatrician-led coordinated multidisciplinary care, including: - pre-operative assessment and optimisation for anaesthesia and surgery - early assessment of cognition (CG42) and post-op. assessment to predict/prevent delirium (CG103) - assessment for prior malnutrition and support with nutrition while in hospital (CG32)	British Orthopaedic Association. The Care of patients with fragility fracture. Br Orthop Ass 2007. http://www.nhfd.co.uk/20/hipfractureR.nsf/DocDisplay/585CF5CE2511A791802579C9005538EF?OpenDocument [Accessed 8 December 2015] Cochrane Database Syst

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			Overall improvement in standards of medical care Minimal delay to surgery caused by medical problems Improved management of perioperative medical complications Better coordination of multidisciplinary team work Improved communication with patients and relatives Reduction in adverse events The Cochrane review of Coordinated Multidisciplinary Hip Fracture Care concludes that there is good evidence to support development of collaborative approaches in the acute setting such as the 'Geriatric Hip Fracture Programme', as these are effective in improving outcome. It also suggests a benefit from the use of intermediate care initiatives such as Early Supported Discharge schemes, and perhaps of Care Pathways to expedite rehabilitation and discharge.	When NHFD questioned the provision of orthogeriatrician support, seven units (4%) reported that they still had no orthogeriatric service. This is an improvement from the figure of 14% we reported in 2011. On average, hospitals were providing 4 hours of senior orthogeriatrician (grade ST3 and above) time for each patient admitted with hip fracture, but there was enormous variation in this provision. Part of this variation will reflect the fact that in some units orthogeriatrician work is limited to patients with hip fracture, while in others the orthogeriatrician also cares for older patients with other injuries, or for elective orthopaedic patients. A further 32 units provide 1–2 hours of senior orthogeriatrician time per patient: less than half the national average. We would question how realistic it is to claim that patients have received orthogeriatrician-led assessment and multidisciplinary care with only an hour or two of senior orthogeriatrician time per patient. The percentage of patients reviewed by a geriatrician improved from 47.1% in 2012 to 50.5% in 2014. In addition, 22% of all patients receive a preoperative assessment from other senior physicians or specialist nurses, but a further 27.3% still do not	Rev 2001;3:CD000106 Cameron ID et al PubMedID 11686951 National Institute of Health and Crae Excellence, NICE CG42 Dementia: supporting people with dementia and their carers in health and social care, London:NICE, 2006 https://www.nice.org.uk/guidance/cg42 [Accessed 8 December 2015] National Institute of Health and Crae Excellence, NICE CG103 Delirium: prevention, diagnosis and management London:NICE, 2010 https://www.nice.org.uk/guidance/cg103 [Accessed 8 December 2015] National Institute of Health and Crae Excellence, NICE CG32 Nutrition support for adults: oral

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
				receive any preoperative assessment.	nutrition support, enteral tube feeding and parenteral nutrition London:NICE, 2006 https://www.nice.org.uk/guidance/cg32 [Accessed 8 December 2015] Royal College of Physicians, NHFD annual report 2015, London:RCP, 2015. http://www.nhfd.co.uk/nhfd/nhfd2015reportPR1.pdf [Accessed 8 December 2015] Royal College of Physicians, NHFD annual report 2014, London:RCP, 2015. http://www.nhfd.co.uk/20/hipfractureR.nsf/vwcontent/2014reportPDFs/$file/NHFD2014ExtendedReport.pdf?OpenElement [Accessed 8 December 2015]
30	SCM	Key area for quality improvement 4	Early post-operative mobilisation reduces complications and	The NHFD reports demonstrate that consistency of approach in the form of daily	NHFD Best Practice Guidance

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		Specialist multidisciplinary teams co-ordinate the patient pathway	supports timely discharge. Co-ordination of functional and medical fitness ensures that patients are more likely to return to their pre injury residence	MDT review meetings will ensure pathways are streamlined, and delays minimised, and patients are more likely to be discharged to their usual place of residence.	
31	SCM	Key area for quality improvement 5 **Consultant surgeon and anaesthetist led operating lists,**	Data demonstrates that if patients are optimised pre-operatively and surgery takes place within 36 hrs of admission, prognosis and outcome are improved.	Consultant led care ensures that high risk cases are managed appropriately by anaesthetists, and surgery is effective and efficient to minimise intraoperative time	NHFD Best Practice Guidance National CEPOD data
32	SCM	Key area for quality improvement 4	All patients should enter into a hip fracture programme	Multidisciplinary co-ordinated care has been shown to improve functional recovery, reduce length of stay and improve patient experience	CG124
33	SCM	Key area for quality improvement 1	Information about care and outcome should be entered on National Hip Fracture Database	The process of recording care has proven to be one of the biggest drivers for change for hip fractures, this information is available to all staff, commissioners, carers and patients	www.nhfd.co.uk
34	SCM	Key area for quality improvement 1. Provision of data to the NHFD demonstrating the operational presence of a fully fledged acute hospital based **Hip Fracture Programme** (HFP) as defined in CG124	The effectiveness and dominant cost-effectiveness of the HFP (including its continuing accountability beyond hospital/community transfer) are endorsed in the recent CG124 surveillance report.	"Ongoing development of intermediate care has led to the commissioning of a great many additional beds in community hospitals and care homes across the country, but the implications of this drift to increasing use of community rehabilitation beds is not easy to examine. It is likely that many of these new beds will be occupied by patients rehabilitating after hip fracture, although such a model of care runs contrary to the cost-effectiveness argument made by the economic model for	NICE QS 16 Statements 1&2 NICE CG124 Hip Fracture Surveillance Report, Oct 2015 National Hip Fracture Database (NHFD) annual report 2015

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
				NICE's recommendation of hip fracture programmes in CG124." NHFD will have enhanced capability to capture this data in 2016. "Hip fracture teams may lack influence over post-acute rehabilitation, and only six (3%) hospitals reported that their local community rehabilitation team was represented at their monthly hip fracture programme clinical governance meetings."	
35	SCM	Key area for quality improvement 1 **Seven day inpatient rehabilitation *(not just mobility)* service for all patients post-op**	Evidence suggests that ongoing active rehab enables a higher proportion of patients to return directly home with a decreased length of stay. Increased immobility is linked to poorer functioning and higher mortality rates. Early intense and frequent rehab decreases length of stay, increases function, increases quality of life, reduces the rate of falls and reduces post-operative complications.	There is great discrepancy on what services are provided in inpatients. The majority of hospitals achieve the best practice tariff for mobilisation by day 1 post-op. Rehabilitation to all patients is however not provided as the service is a five day service stretched to cover seven days. Therapists have also reported that they are only able to progress patients to a point where they are appropriate for rehabilitation rather than initiating a rehabilitation programme. The current management of patients is felt to be driven by system pressures as opposed to evidence based practice.	- BOA (2012) BOAST 1 - BOA/BGS (2007) Blue Book - NICE (2011) Hip Fracture Management - Siu et al 2006 - Briggs (2015) GIRFT Report - Thomas et al 2011 - NHS (2014) Five Year Forward View
36	Chartered Society of Physiotherapy	Hip fracture rehabilitation in acute setting	Early and intense rehabilitation decreases hospital length of stay, post operative complications and costs; increases function and quality of life and reduces the rate	CSP survey of orthopaedic physiotherapy services suggests that the majority of patients are mobilised early but there is large variation in whether patients receive rehabilitation. Rehabilitation should be	British Orthopaedic Society. A national review of adult elective services in England. Getting it right first time. March 2015.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			of falls	based on functional goals and include progressive balance, strengthening and endurance exercise. National hip fracture database (NHFD) 2015 report found three-quarters of patients were mobilised from bed on the day after surgery but 12% hospitals achieved this in fewer than half of cases.	Chapter 11. Stocktake of rehabilitation services in England for elective and trauma surgery https://www.boa.ac.uk/wp-content/uploads/2015/03/GIRFT-National-Report-Mar15..pdf Royal College of Physicians. National Hip fracture Database annual report 2015 http://www.nhfd.co.uk/2015report
37	Chartered Society of Physiotherapy	Seven day rehabilitation services	Patients should receive the same level of care, regardless of what day of the week it is	CSP survey found that only one quarter of physiotherapy services were adequately staffed to see hip fracture patients every day.	British Orthopaedic Society. A national review of adult elective services in England. Getting it right first time. March 2015. Chapter 11. Stocktake of rehabilitation services in England for elective and trauma surgery https://www.boa.ac.uk/wp-content/uploads/2015/03/GIRFT-National-Report-Mar15..pdf NICE hip fracture guidance
38	Chartered	Integrated hip fracture	Patients should have continuous	The CSP survey found that fewer than half	British Orthopaedic

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
	Society of Physiotherapy	rehabilitation after discharge from hospital	access to the rehabilitation for an appropriate length of time regardless of setting	of all hip fracture patients were offered rehabilitation after discharge from hospital. There was wide variation in practice. Patients offered Early Supported Discharge (ESD) had an average waiting time of five days before they were able to see a physiotherapist. For non ESD rehabilitation, the majority of patients were seen within four weeks. Services that integrate their acute and community rehabilitation services are able to provide continuity of care and are associated with shorter length of stay. NHFD 2015 report suggests hip fracture teams may lack influence over post-acute rehabilitation and only 3% hospitals reported that their local community rehabilitation team was represented at their monthly hip fracture programme clinical governance meetings.	Society. A national review of adult elective services in England. Getting it right first time. March 2015. Chapter 11. Stocktake of rehabilitation services in England for elective and trauma surgery https://www.boa.ac.uk/wp-content/uploads/2015/03/GIRFT-National-Report-Mar15..pdf Royal College of Physicians. National Hip fracture Database annual report 2015 http://www.nhfd.co.uk/2015report
39	SCM	Additional developmental areas of emergent practice **Quality Trauma Discharge (QTD)**	QTD has been introduced at North Bristol NHS Trust to help ensure consistent discharge packages for patients and families/carers. It is based on the Boston innovation RED (re-engineering discharge). Providing written information on medication mobility, expected progress, pain control, rehab goals, sources of help etc. is given to the patient	Patients are not sure what to expect on discharge/transfer, and therefore QTD ensures patients and carers/families have a key worker, single contact point and are provided verbal and printed information about treatment and care, including rehab program and long term outcomes.	- NICE (2011) Hip Fracture Management - SIGN (2009) - RED (Re-engineering Discharge): https://www.bu.edu/fammed/projectred/ - QTD (Quality Trauma Discharge): http://www.health.org.uk/programmes/innovating-

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			and the carer to ensure a patient centred approach with all the information provided in a single place in lay language. It also ensures consistency in information given as well as providing power to the patient to be more instrumental in ensuring they receive the care/input they should receive.		improvement/projects/quality-trauma-discharge
40	SCM	- AgeUK (2013) Falls prevention exercise – following the evidence. The evidence for falls prevention exercise and how it can be applied in practice - Auais, A. et al (2012) Extended exercise rehabilitation after hip fracture improves patients' physical function: a systematic review and meta-analysis. Physical Therapy, 92, pp1437-1451 - BOA (2012) BOAST 1 Version 2 - BOA/BGS (2007) The Blue Book: The Care of	- Gillespie et al (2012) Cochrane review. Interventions for preventing falls in older people living in the community - Latham, N. et al (2014) Effect of a home-based exercise program on functional recovery following rehabilitation after hip fracture. A randomized clinical trial. JAMA, 311(7), pp700-708 - NHFD (2015) Annual Report 2015	- NHS (2014) Five Year Forward View - NHS (2015) Principles and expectations for good adult rehabilitation - NICE (2011) Hip Fracture Management. Clinical Guideline - NICE (2012) Quality Standard 16. Hip Fracture	- SIGN (2009) 111: Management of hip fracture in older people. A national clinical guideline - Siu, A. et al (2006) Early ambulation after hip fracture. Effects on function and mortality. Archives of Internal Medicine, 166(7) - Thomas et al (2011) Determining current physical therapist management of hip fracture in an acute care hospital and physical therapists' rational for this management, Physical Therapy, 91, pp1490-1502

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		Patients with Fragility Fracture - Briggs, T. (2015) GIRFT (Getting it Right First Time). A national review of adult elective orthopaedic services in England.			
41	British Geriatrics Society	Early Supported Discharge	Early Supported Discharge, particularly as part of a joined-up service between hospital and community, reduces length of acute stay and improves patient satisfaction without a significantly greater risk of readmission.	Most of the areas covered in the existing NICE QS16 have evidence of reasonable uptake, though there is still local variation in most cases. Of the areas currently covered in QS16, Early Supported Discharge (ESD) is the standard with the poorest adherence. It still not available in over half of localities (48% of hip fracture services report having access to ESD). Most areas do not have a service where community and hospital services work closely together (3% of hip fracture service local clinical governance meetings include community service representatives).	For evidence of poor availability of Early Supported Discharge and joined-ip working, see National Hip Fracture Database Annual Report 2015. http://www.nhfd.co.uk/nhfd/nhfd2015reportPR1.pdf
42	British Geriatrics Society	Screening for delirium	Patients have a high risk (13-61% incidence depending on the diagnostic criteria and population under study) of delirium following hip fracture but this is often poorly recognised and managed. Patients with delirium have more complications, greater length of	Over 90% of hip fracture patients in England currently receive cognitive assessment pre- and post-operatively, as this is one of the standards for the Best Practice Tariff. However, the current assessment tool (Abbreviated Mental Test Score) is not adequate to screen for or diagnose delirium. There is indirect evidence of low and	NICE Clinical Guideline 103 (Delirium) recommends that hip fracture patients are at high risk of delirium and should be screened accordingly.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			stay and poorer survival. Outcomes are worse if delirium is not recognised	variable levels of screening for delirium in older inpatients (36% of patients screened for delirium with marked variation between hospitals). Screening for delirium in hip fracture patients is not captured in existing data but could be included as a part of the National Hip Fracture Database either as a routine data item or as part of a sprint audit.	The National Audit of Inpatient Falls Report 2015 can be found at: https://www.rcplondon.ac.uk/projects/outputs/naif-audit-report-2015.
43	AGILE	Key area for quality improvement 3 **Standardised measurement of recovery post surgery to ensure timely referral to the hip fracture rehabilitation programme**	There is good evidence that using a standardised method of measuring functional mobility over the first 3 days post-surgery can predict outcome and onward rehabilitation referrals	The average waiting times for bed-based and home based intermediate care reported at service level is deteriorating over time which has an impact on patient experience and may have an impact on outcome. Proactive discharge planning using a validated measure of recovery may improve outcomes.	National Audit of Intermediate Care 2015
44	SCM	Key area for quality improvement 2 Good quality and consistent information for patients and carers	Effective and genuine communication with patients and carers/families is hugely important for many reasons, ranging from facilitating proper consent, encouraging compliance with post op restrictions and medication regimes to facilitating rehab and successful release from hospital. For many hip fracture patients, this may well be their first experience of – for example -	Face-to-face transmission of information is vital, but patients frequently say to me they are overwhelmed and cannot remember what various staff members told them verbally, and that only afterwards did they think of questions they should have asked. Therefore, good quality written information for patients and carers is extremely important. However, across the NHS, standards and quality of written information vary significantly. It must be remembered that leaflets, etc. are often the first and	Link to Dropbox folder containing four example .pdfs: https://www.dropbox.com/sh/czw59msw5aasurb/AAAnaInrNP_ZZnR4mMKJxzWNa?dl=0

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			using crutches, using a bedpan, having an anaesthetic, etc. so they won't even know the right questions to ask; they are unaware of what they do not know. Many lack any experience or understanding of anatomy, and many do not really understand what will be/has been done to repair the fractured hip.	sometimes only sources the patient or carer has to hospital-controlled information. Some patients - particularly older or economically disadvantaged ones – cannot access online resources; many patients who can access the internet will come across unreliable information. Innovative medical communication media can be used to create effective and professional means of delivering information to patients and best practice across the NHS should now reflect this. As hip fracture is such a serious injury, frequently affecting a vulnerable older demographic, particular effort should be made to ensure that information is accessible, understandable, clear, concise and offered in appropriate formats.	
45	SCM	Key area for quality improvement 3 Involvement, where appropriate, of carers	Properly supporting families and carers to become involved in release from hospital will have a direct impact on successful rehabilitation. Family and carers have an important part to play in helping to ensure a safe environment for the patient, and also to help provide the social and emotional support needed, whether the patient returns home or is transferred to a nursing/assisted living facility. Apart from the potential problem	Much is rightly made of the involvement of the multidisciplinary team, and of keeping patients and family informed both orally and through written material. But little seems to be made of actually involving the family, or acknowledging the huge role family and/or carers can play. Obviously, this is not appropriate in every case, but considering the role family/carers can play in preventing falls and maximising rehabilitation (especially in the light of recent withdrawal of many local services), it makes sense for hospitals to be aware of the potential for relatives to play an vital role in any	

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			of a patient being released back into a hazardous household where carers have not been adequately informed about patient needs, support needs to be given to help provide an environment where confidence is fostered and depression is minimised. Properly supported patients are much more likely to regain independence and confidence, and family/carer support plays a huge part.	successful recovery. NICE guidelines could perhaps encourage hospitals to maximise the potential for family involvement, if appropriate.	
46	SCM	**All patients with fragility fracture should be offered secondary prevention, including:** Medication review supported by assessment of lying and standing blood pressure [CG161] Consideration for an evidence based programme of strength and balance training [CG161] Assessment for bone protection, and follow up to support persistence with this [TA161]			

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
47	SCM	Key area for quality improvement 2 **Intra-operative cardiovascular management**	Poor cardiovascular management may be associated with worse outcomes for patients	The NHFD-ASAP audit demonstrated wide-spread intra-operative hypotension in hip fracture patients There is an association between intra-operative hypotension and mortality outcome.	Evidence from non-hip fracture fields (http://www.ncbi.nlm.nih.gov/pubmed/23835589 Relationship between intraoperative mean arterial pressure and clinical outcomes after noncardiac surgery: toward an empirical definition of hypotension) ASAP data – available from http://www.nhfd.co.uk/20/hipfractureR.nsf/vwContent/asapReport I have attached a paper in revision (in confidence)
48	SCM	Key area for quality improvement 4 **Knowing / assessing / documenting risk**	Understanding the risks associated with hip fracture is important to care planning, communication with patients and their relatives / carers, and in allowing internal or comparative benchmarking	Little consistency in how pre-operative risk scoring is applied / performed in the UK. Identified in previous NCEPOD reports as a key component of care for high-risk patients. Requiring the use of a validated risk assessment tool would be relatively straightforward. Clearly clarity of how this was then used for the benefit of patients would be harder to achieve.	**Please note my conflict of interest as the originator of the Nottingham Hip Fracture Score.** There are a few validated scoring systems available for hip fracture patients. See: Injury. 2015 Oct 21. pii: S0020-1383(15)00627-0. doi: 10.1016/j.injury.2015.10.025. [Epub ahead of print]

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
					Risk scoring models for predicting peri-operative morbidity and mortality in people with fragility hip fractures: Qualitative systematic review. http://www.ncbi.nlm.nih.gov/pubmed/26553425
49	SCM	Key area for quality improvement 5 Evidence of increased implementation of **multifactorial falls risk** assessment for primary and secondary prevention, if that is now within scope.	CG161 Recommendation 1.1.2.1 "Older people who present for medical attention because of a fall, or report recurrent falls in the past year, or demonstrate abnormalities of gait and/or balance should be offered a multifactorial falls risk assessment. This assessment should be performed by a healthcare professional with appropriate skills and experience, normally in the setting of a specialist falls service. This assessment should be part of an individualised, multifactorial intervention." is supported by evidence of efficacy	Implementation for primary prevention remains highly deficient, with minimal percentage referral to specialist services	Hip # Qs 16 Statements 11-12 CG161 Recommendation 1.1.2.1
50	SCM	Key area for quality	Patients who fall and fracture	The type and amount of rehab following falls	- AgeUK (2013)

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		improvement 4 **Falls prevention services provided following a fractured hip**	have a significantly higher chance of further falls and re-fracture. This impacts on their quality if life and further injuries can present further health burden and health care costs. Ensuring rehab also focuses on falls prevention has been shown to reduce the risk of falls in older adults. A tailored exercise programme can reduce falls by as much as 54%.	varies throughout the UK, with definitions on what constitutes an effective service variable.	- Goodwin et al (2010) (This key area is likely to duplicate/cross over with the falls quality standards)
51	Royal College of Physicians	Secondary falls and fracture prevention	People with low bone density and a tendency to fall are at risk of a fragility fracture and those who sustain one such fracture are at high risk of another. There are approved treatments for low bone density and interventions to reduce falls risk, but they are not offered to most patients who should be on treatment. Fracture liaison services (FLSs) have been introduced to ensure that patients are assessed after fragility fracture and offered secondary prevention. Based on National Osteoporosis Society (NOS) estimates for the 19 million adults aged over 50 years in England, national FLS	We would propose that all patients with fragility fracture should be offered secondary prevention, including: - medication review supported by assessment of lying and standing blood pressure (NICE CG161) - consideration for an evidence based programme of strength and balance training (NICE CG161) - assessment for bone protection (NICE TA161), and follow-up to support persistence with this -All eligible hip fracture patients are reviewed for recurrent fracture and falls to guide future therapy -The children of hip fracture patients are reviewed for their bone health in line with (NICE CG146)	British Orthopaedic Association. The Care of patients with fragility fracture. Br Orthop Ass 2007. http://www.nhfd.co.uk/20/hipfractureR.nsf/DocDisplay/585CF5CE2511A791802579C9005538EF?OpenDocument [Accessed 8 December 2015] Cochrane Database Syst Rev 2001;3:CD000106 Cameron ID et al PubMedID 11686951 National Institute of Health and Crae Excellence, NICE CG42 Dementia:

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			coverage should prevent 31,000 fractures including 13,000 hip fractures over 5 years. This leads to a 5-year saving of at least £156.2 million in NHS acute care costs, not including social care or community costs or benefits to patients, their families and carers.	In 2010 only 37% of health economies in England, Wales and Northern Ireland had an FLS, while Scotland had almost universal access. Of those FLSs, there is great variability in terms of capacity (staff per 1,000 patients) and scope of service, for example the role of the FLS in respect of drug adherence and falls prevention. In 2014 the annual report of the National Hip Fracture Database (NHFD) found that 80.1% of patients had been started on bone protection treatment, or were referred for dual X-ray absorptiometry (DXA) scan or bone clinic assessment. A further 16.0% of patients were recorded as having been assessed but not considered appropriate for treatment. This figure had fallen slightly from 16.7% in 2013. There was considerable variation between hospitals in both of these figures, with some still labelling more than half of patients as inappropriate for treatment. Although patient choice is to be encouraged, the amount of variation is more likely to be explained by unjustifiable differences between hospitals in clinical judgements about the benefits of treatment. There is clearly a need for greater consistency if the potential reductions in the rates of further fractures are to be achieved	supporting people with dementia and their carers in health and social care, London:NICE, 2006 https://www.nice.org.uk/guidance/cg42 [Accessed 8 December 2015] National Institute of Health and Crae Excellence, NICE CG103 Delirium: prevention, diagnosis and management London:NICE, 2010 https://www.nice.org.uk/guidance/cg103 [Accessed 8 December 2015] National Institute of Health and Crae Excellence, NICE CG32 Nutrition support for adults: oral nutrition support, enteral tube feeding and parenteral nutrition London:NICE, 2006 https://www.nice.org.uk/guidance/cg32 [Accessed 8 December 2015]

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
				nationally.	Royal College of Physicians, NHFD annual report 2015, London:RCP, 2015. http://www.nhfd.co.uk/nhfd/nhfd2015reportPR1.pdf [Accessed 8 December 2015] Royal College of Physicians, NHFD annual report 2014, London:RCP, 2015. http://www.nhfd.co.uk/20/hipfractureR.nsf/vwcontent/2014reportPDFs/$file/NHFD2014ExtendedReport.pdf?OpenElement [Accessed 8 December 2015]
52	The Royal College of Emergency Medicine	Key area for quality improvement 4 98% of patients should be admitted within 4 hours of arrival.		Overall in 2012, **7%** of patients were recorded as admitted within 2 hours (*13%* in 2008) and **79%** within 4 hours of arrival in the ED (*83%* in 2009). These figures may be unreliable as it is possible that no time of admission was recorded in the ED notes for some of the remaining **21%** of audited patients.	See attached National Clinical Audit Report Fractured Neck Of Femur (2013)
53	SCM	Key area for quality	Hip fracture is not exclusively the	Limited anecdotal evidence (seven patients	

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		improvement 4 Younger hip fracture patients	preserve of an older demographic. Younger patients still fracture hips, but because the pathway is so heavily weighted towards treatment of the elderly, the younger patient can miss out.	I have spoken to at length) strongly suggests that being a younger patient has a unique set of issues. Several I spoke to mentioned delays in diagnosis, delays in delivery of analgesia and even delays in hospitalisation due to the belief that hip fracture was as issue for older patients. After surgery, several had trouble with other aspects of their treatment – as they were so much younger than average, presumptions were made, questions were not asked, or information was not relevant. Nice guidelines must ensure that this small but significant demographic, with different needs, expectations and lifestyle issues is not marginalised.	
54	BAPO	Key area for quality improvement 1 Hip orthoses should be considered in the prophylactic post-operative management of surgery following hip fracture. A clinical pathway should be established to guide provision.	The postoperative dislocation following primary THA has been reported at 1.7% and this increases to 5.1% after revision procedures (1). Hip orthoses are fitted as a prophylactic intervention with the rationale being these braces restrict movement of the hip joint to a safe range of motion whilst also acting as a psychological reminder for the patient who will avoid movements outwith a safe range. As such they enable the	The current NICE Hip Fracture Guidance and Pathway make no reference to the role of orthotics within the statements regarding 'Multidisciplinary Rehabilitation'. As such the current guidance over looks hip orthoses and does not identify them as a key tool to aid daily mobilisation of the patient and also safely allow early supported discharge as discussed and recommended therein.	1 Khatod M, Barber T, Paxton E, Namba R, Fithian D. An analysis of the risk of hip dislocation with a contemporary total joint registry. Clinical orthopaedics and related research. 2006; 447:19-23. 2 Lima D, Magnus R, Paprosky W. Team management of hip revision patients using a post-op orthosis.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			multidisciplinary team to safely mobilise the patient (2,3). Whilst literature examining the use of hip orthoses is limited, there is evidence to support the use of orthoses and the role in reducing dislocation rates following THA. Furthermore, recommendations have been made as to improvements in study design to ensure that future research in this area provides stronger outcomes and enables clinicians to create a clinical pathway (4)		Prosthetics and Orthotics International. 1994;6(1):20-4. 3 Lusardi MM, Barringer WJ, Stills ML. Orthotics in the Rehabilitation of Congenital, Developmental and Trauma-Related Musculoskeletal Impairment of the Lower Extremities. In: Lusardi MM, Nielsen CC, editors. Orthotics and Prosthetics in Rehabilitation. Edition 2. St. Louis, Missouri: Saunders Elsevier; 2007. p. 357-97. 4 Cox, Chris. 'LITERATURE REVIEW ON THE USE OF HIP ORTHOSES IN THE MANAGEMENT OF DISLOCATION FOLLOWING TOTAL HIP REPLACEMENT ARTHROPLASTY'. Undergraduate. University of Strathclyde, 2013. Print.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
55	SCM	Key area for quality improvement 3 **Peri-operative data collection**	There is wide variation in peri-operative care practice which is likely to encompass poor (and good) practice. Near real-time feedback has been shown to improve practice and outcomes.	Widespread variation in practice across UK. In general the surgical management has standardised mainly in response to the driver of NHFD / BPT. Peri-operative care has not had the same focus.	
56	Royal College of Anaesthetists	Key area for quality improvement 3 **National data collection about perioperative management**	• Basic anaesthesia data has been collected nationally by the NHFD since 2012. • The accuracy of this data is uncertain • The breadth of this data is limited, and limited information is collected about other aspects of care during the perioperative episode.	• Limited data range and quality limit possibilities for quality improvement, and identification of research priorities • Quality improvement in the UK enhanced recovery care of emergency laparotomy and elective orthopaedics is based on high quality perioperative data collection • Technology allows for real time data collection and feedback into continuous quality improvement programmes	NHFD national audit[2] Analysis of NHFD 'anaesthesia' data[6] ASAP national audit of UK practice[3] Secondary outcome analysis of ASAP data[7] NHS Improving Quality *Improvement Tools*[9]
57	Royal College of Anaesthetists	Key area for quality improvement 2 **Intraoperative care**	• National guidelines identify good intraoperative care as essential to 're-enabling' patients after surgery • Poor intraoperative care is associated with postoperative morbidity, which worsens routinely measured outcomes (mortality and length of inpatient stay)	• There are wide national variations in surgical and (particularly) anaesthetic intraoperative care • Type of anaesthesia administered does not seem to affect mortality or length of stay, but early postoperative morbidity may be a better outcome measure of anaesthesia care • Early postoperative morbidity may be improved by choice of anaesthesia technique (regional anaesthesia at lower doses, minimising sedation, cerebral	AAGBI *Perioperative care of the elderly 2014* national guidelines[4] AAGBI *Management of proximal femoral fracture 2011* national guidelines[5] NHFD national audit[2] Analysis of NHFD 'anaesthesia' data[6] ASAP national audit of UK practice[3] Secondary outcome

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
				function monitoring if general anaesthesia used) administered by subspecialists in anaesthesia for the elderly • Intraoperative hypotension is associated with increased 5-day and 30-day mortality in hip fracture patients • There is some evidence that protocol-based standardisation of care (eg enhanced recovery programmes) improve outcome compared to physician-individualised care	analysis of ASAP data[7] NHS Improving Quality *Protocol Based Care*[8]
58	Royal College of Anaesthetists	Key area for quality improvement 5 **Availability of high dependency care peri-operatively**	• Hip fracture patients often have numerous comorbidities that increase the perioperative risk of death and morbidity (30d postoperative mortality ~ 8%) • Evidence suggests that half of the perioperative mortality after hip fracture is potentially preventable • Improved early high dependency postoperative monitoring (in an HDU or via HDU outreach teams) may reduce avoidable mortality rates	• Despite national recommendations and equality statute, ageism still affects elderly patients' access to level 1 (enhanced monitoring) and level 2 (HDU) care • Very few hip fracture patients receive high dependency care postoperatively • There is widespread national variation in the proportion of hip fracture patients receiving postoperative high dependency care	NCEPOD Reports *Extremes of Age* (1999)[12] and *Elective and Emergency Surgery in the Elderly: An age old problem* (2010)[13]
59	SCM	Key area for quality improvement 2	It is known that older people, particularly those with cognitive	All aspects of care of the GI tract are important – the patient group is likely to be	As above

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		Avoidance of constipation	impairment become more confused when constipated	undernourished prior to admission, and prone to dehydration and constipation. The pathway of care can be disrupted by lack of attention to these aspects causing distress and delirium, discomfort, and potentially increased length of stay	
60	SCM	Key area for quality improvement 3 **Seamless transition between acute care and community rehab services**	Many discharges are delayed due to non-medical reasons, with social services and community teams often being the cause of the delay. This increases hospital costs and associated risks with remaining in an acute environment. The ward environment is also not conducive to rehabilitation of the older patient, with patients often just remaining around their bedside. Patients should therefore be discharged from acute care as soon as they are medically fit to continue their rehab in the most suitable environment, but importantly without a break. If patients are not seen seamlessly and are immobile at home and not confident to move they are susceptible to complications. Regular and frequent rehabilitation improves strength,	The GIRFT report found fewer than half of all hip fracture patients were offered rehab once they left hospital. This delivered rehab has large variations on when and how frequently patients are seen post discharge from the acute setting, with some patients waiting over a month for input. Some patients are also seen less than once a week. NICE recommends clinical and service governance responsibility for all stages of the pathway of care and rehab, including the clinical lead retaining the managerial lead and providing input on objectives and LOS, but the NHFD report shows only 3% of hospitals have community representation at their hip fracture meetings. The NHS Principles and expectations for good adult rehab calls for joined up rehab services that are reliable, personalized and consistent.	- NICE (2011) Hip Fracture Management - NICE (2012) Quality Standard 16 - Auais et al 2012 - Latham et al 2014 - Gillespie et al 2012 Cochrane review - Briggs (2015) GIRFT Report - NHS (2015)

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			balance, mobility, and function, and decreases complications.		
61	SCM	Additional developmental areas of emergent practice **Early Supportive Discharge (ESD) initiative**	Wirral University Teaching Hospital have implemented an ESD initiative that has twice a day input in the patient's own home, which reduces to once a day as they return to normal function. It has shown a dramatic decrease in hospital length of stay and had 100% positive feedback from patients and carers.	~	- NHFD (2015) Annual Report 2015
62	SCM	Additional developmental areas of emergent practice	There is growing deployment of neural block in A&E for enhaced early analgesia, but it may not be feasible at this point in time to incorporate a criterion into an evidence-based QS		British Orthopaedic Association and British Geriatrics Society 'The care of patients with fragility fracture ('blue book')':
63	The Society and College of Radiographers	Key area for quality improvement 1	Lateral radiograph for the management of intra-capsular proximal femoral fractures	Are these still required? There could be patient experience and time saving implications.	Article : Is the lateral radiograph necessary for the management of intra-capsular proximal femoral fractures? Muhammad Tawfiq Korim  , Venthurla Ram Mohan Reddy

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
					, David Gibbs , Clare Wildin DOI: http://dx.doi.org/10.1016/j.radi.2011.12.003 Share on mendeley Share on facebook Share on twitter Share on email More Sharing Services ***Article Info***
64	Chartered Society of Physiotherapy	Ward culture and environment	Patients will regain independence more quickly if the ward environment is conducive to rehabilitation	The CSP undertook detailed interviews with 15 orthopaedic physiotherapy services. Physiotherapists reported that the ward environment was not conducive to rehabilitation of the older person. Patients tend to remain around their bedside for mealtimes and personal care. This has the effect of increasing dependence and hospital length of stay	British Orthopaedic Society. A national review of adult elective services in England. Getting it right first time. March 2015. Chapter 11. Stocktake of rehabilitation services in England for elective and trauma surgery https://www.boa.ac.uk/wp-content/uploads/2015/03/GIRFT-National-Report-Mar15..pdf
65	Smith & Nephew UK Ltd	Key area for improvement in QS16	Extramedullary and Intramedullary fixation devices display differing functional	Superior clinical outcomes from the use of intramedullary rather than extramedullary implants include reductions in hospital	Please see the publications produced by the AO/OTA Foundation

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		Extramedullary and Intramedullary fixation devices should equally be considered as treatment options for trochanteric fractures above and including the lesser trochanter where clinically appropriate based upon sub-fracture classification.	outcomes amongst unstable trochanteric fractures. Intramedullary implant technology has evolved such that recent evidence for the newer generations of implants supports superior clinical outcomes when they are selected rather than extramedullary implants for unstable trochanteric fractures.	length of stay[8,9], fewer reoperations by one year after initial surgery[10,11], reduced femoral neck shortening[5,12,13], reduced operating room (OR) time[9,14], earlier improvement in mobility scores[5,11,13] or improved mobility[10,11,15], better patient satisfaction[10], and lower pain scores[10,14]. Intramedullary fixation devices provide better biomechanical stability which improves postoperative pain and functional outcomes in comparison to Extramedullary fixation devices in equivalent fracture types. Early mobilisation and 'improved fixation stability with reduced risk of secondary displacement' is achieved with the use of an intramedullary fixation device in femur fractures above and including the lesser trochanter that are classified as unstable trochanteric fractures in comparison to the conventional sliding hip screw or extramedullary fixation device[17]. The pre-fracture status of people who suffer a hip fracture needs to be taken into consideration when selecting a fixation device based on fracture classification. The majority are active, live independently and walk without an aid[18]. The body of clinical evidence suggests that excessive shortening occurs in patients who are	(upon which the cited fractures and treatment options, within NICE's CG124 and this Quality Standard, are classified) which supports differentiating the use of extramedullary and intramedullary fixation devices due to the biomechanical stability gained when using an intramedullary device in people with hip fractures above and including the lesser trochanter based upon the the 'stability/unstability' of the fracture as documented within the AO/OTA fracture classification. https://www2.aofoundation.org/wps/portal/!ut/p/a0/04_Sj9CPykssy0xPLMnMz0vMAfGjzOKN_A0M3D2DDbz9_UMMDRyDXQ3dw9wMDAx8jfULsh0VAdAsNSU!/?bone=Femur&segment=Proximal&soloState=lyteframe&contentUrl=srg/popu

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
				treated with an Extramedullary fixation device. This is associated with poor physical function scores and many never return to pre-fracture status[19,20].	p/further_reading/PFxM2/31/661_22-troc_fxs_surg_treatm.jsp https://www2.aofoundation.org/wps/portal/surgery/?showPage=redfix&bone=Femur&segment=Proximal&classification=31-A2&treatment=&method=CRIF+-+Closed+reduction+internal+fixation&implantstype=Sliding+hip+screw+with+TSP&redfix_url=1284974568094 Full references are listed in the Appendix
66	Smith & Nephew UK Ltd	Key area for improvement in QS16 *Granularity of fracture classification to differentiate the clinical differences between stable and unstable hip fractures*	Statement 8 of the 2012 NICE QS16 currently refers only to A1 & A2 fractures above and including the lesser trochanter. There are additional fracture types and patterns that need to be included. Furthermore, there are distinct differences between A1, A2 and A3 fractures which are further sub-categorised according to fracture comminution and stability. This classification provides	The current recommendation for people being treated for A1 & A2 type fractures, above and including the lesser trochanter, are that they are preferentially treated with an extramedullary fixation device compared to an intramedullary fixation device based upon an earlier, now outdated, body of clinical and economic evidence. Evidence supports that intramedullary implants deliver superior clinical outcomes for Type A3 hip fractures.[1-6] They have also	Please see the publications produced by the AO/OTA Foundation which supports differentiating the use of extramedullary and intramedullary fixation devices due to the biomechanical stability gained when using an intramedullary device in people with hip fractures

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			direction about appropriate surgical treatments that enable the best patient clinical outcomes.	been found to be more cost-effective than extramedullary implants for Type A3 hip fractures.[7] Additionally, emerging evidence identifies that intramedullary implants deliver better clinical outcomes for Type A2 fractures.	above and including the lesser trochanter based upon the 'stability/instability' of the fracture as documented within the AO/OTA fracture classification. https://www2.aofoundation.org/wps/portal/surgery/?showPage=redfix&bone=Femur&segment=Proximal&classification=31-A2&treatment=&method=CRIF+-+Closed+reduction+internal+fixation&implantstype=Sliding+hip+screw+with+TSP&redfix_url=1284974568094 Full references are listed in the Appendix
67	Smith & Nephew UK Ltd	Key area for improvement in QS16 The cost effectiveness of both Extramedullary fixation devices and Intramedullary fixation devices differ according	Appropriate selection of the medical device used for the surgical treatment of hip fractures impacts clinical outcomes and health resource utilization during both the immediate care episode and over the remaining course of patients' lives.	Intramedullary fixation devices have been found to be more cost-effective than extramedullary fixation devices for Type A3 hip fractures.[7] The procurement cost of a medical device selected as a treatment intervention should not be the predominating criteria used to	Full references are listed in the Appendix

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		to fracture classification		determine the quality standard. Rather, excellent high quality clinical outcomes reflected over the course of patients' lifetimes as supported by evidence proving the value of the selected intervention should be the foundation of any quality standard. Cost benefits to the facility delivering hip fracture care have been identified when following a care algorithm applying intramedullary implants for Type A2 and A3 fractures.[7,16] Evidence does not sufficiently differentiate clinical outcomes for Type A1 hip fractures when treated with either an intramedullary implant or an extramedullary implant[6], but the latter is less costly and has been considered more cost-effective.[7]	
68	The Royal College of Emergency Medicine	Key area for quality improvement 3 75% of patients should have an X-ray within 60 minutes of arrival or triage whichever is the earliest.	Nationally, **45%** of audited #NOF patients were recorded as going to X-ray within 60 minutes of arrival in the ED; (the same as in 2009, but up from *41%* in 2008).	There was considerable variation between EDs. The CEM standard is that **75%** of patients should have an X-ray within 60 minutes of arrival or triage. **6%** of EDs met this standard. However, in **26%** of EDs, more than a quarter of the audited patients were still waiting for an X-ray two hours after their arrival. No time to X-ray was recorded for **7%** of audited patients.	See attached National Clinical Audit Report Fractured Neck Of Femur (2013)
69	NHS England	Many thanks for the opportunity to review this document. This would appear to be a very inclusive topic overview with no major sources of evidence omitted. The evidence from the National Hip Fracture Database indicates that the previous Quality Standard 16			

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		has been successful in helping providers to influence best practice. QS 16 and at 12 statements compared to other NICE standards is a little lengthy but the comprehensiveness is appropriately reflective of the complexity of the topic. We are appreciative of the need to coordinate this Quality Standard with other related NICE guidance but would encourage the review team to retain and update as much of the detail as possible.			