Hip Fracture Care Pathway Report 2017
Contents

Foreword from Chief Medical Officer for Scotland 2

Chairman’s Report 3

Key Results: Achievement of Scottish Standards of Care for Hip Fracture Patients in 2016 5

Recommendations 6

Audit Results 9

Supporting Continuous Local Quality Improvement through National Audit Data 31

Appendices 35

A Hospital Abbreviations and Data Completeness 35

B Scottish Hip Fracture Audit and Advisory Group Membership & Contacts 36

C References 39

D Access to the Trauma and Orthopaedic Dashboard 40
Foreword from Chief Medical Officer for Scotland

Realising Realistic Medicine1 (my second Annual Report, published in February 2017) puts the person receiving care at the centre of decision-making and creates a personalised approach to their care. It aims to reduce harm and waste and simplify care, while managing risk and innovating to improve. It also recognises the importance of valuing and supporting all health and care professionals as vital to improving the outcome for the person in their care. I believe that these improved outcomes must include what the priorities are for the person and their family.

I have set out a vision and priorities; showcasing national and international multi-professional support from clinicians, leaders from medicine and public health and stakeholders from a wide group of organisations; and outlined plans for engagement with people cared for and supported in healthcare as well as the wider public during 2017.

I am heartened by the fact that much of the philosophy of Realistic Medicine2 has been embraced by the Hip Fracture Care Workstrand which is within the overall Trauma and Orthopaedic ACCESS3 programme, supported by the Scottish Hip Fracture Audit. The focus of this work is on what matters to people who suffer from this painful injury. They are not just another patient but someone’s mother, father or loved one and so all professionals involved have a responsibility to ensure that the very best pathway of care is followed. Communication between professionals and the person with the injury and their relatives and carers is often identified as less than the person would like and therefore I welcome the co-production of new information resources between those who have experience of hip fracture and health professionals. These resources will contain details of what to expect following a hip fracture and by empowering people I am confident that better shared decision-making will become the norm as well as improved outcomes and satisfaction for all involved.

This report contains details of the variation across Scotland which still exists in care and outcomes for people with hip fractures. By actively reducing variation, applying the national standards and improving communication, people who sustain a hip fracture will not only receive optimal care and outcomes but it will improve the satisfaction and experience of all involved.

These audit results should be used nationally and locally to explore why these differences continue to exist and empower the public to ask questions such as “why is my relative’s length of stay in hospital or chances of getting back home different in this hospital to that in another hospital?”

Catherine Calderwood
Chief Medical Officer for Scotland
Chairman’s Report

Following the publication of our last report in July 2016\(^4\), based on a snapshot from November 2015 to January 2016, the aim has been to collect data from every hip fracture patient admitted to hospital in Scotland. To coincide with this development and in keeping with the aims and spirit of both the original audit and the hip fracture care pathway, we re-introduced the title of the Scottish Hip Fracture Audit. This report details the care of almost 4,000 people who sustained a hip fracture during the period May to December 2016. Data has been collected on 84% of all hip fracture patients in Scotland in this time period, with all but four of the 20 hospitals auditing at least 90% of patients (further details can be found in Appendix A). Our aim for the 2018 report is to include a complete data set for all patients in 2017.

Our principle focus is the return of patients to their original place of residence within 30 days of admission. Returning home quickly is reported as one of the most important outcomes to both patients and relatives. The Scottish Hip Fracture Audit and Advisory Group (Appendix B) will continue to drive forward improving the quality of care every hip fracture patient in Scotland receives when they sustain this potentially life changing injury.

We have demonstrated improvements in a number of areas including: the use of regional nerve blocks, ED assessments (the ‘Big 6’), inpatient bundle assessments, time to theatre, repeat fasting, care of the elderly assessment and bone health assessment. Despite the improvements observed, unexplained variation in clinical practice continues to exist across the country. We hope that by improving the quality of the complex and multi-disciplinary care that hip fracture patients receive, similar improvements will result for all fragility fracture patients and the wider patient population.

The Scottish Hip Fracture Audit focuses on providing measures to enable the following three principles:

1. Reduce unwarranted variation in service provision, remove waste and eliminate harm.

2. Improve healthcare quality by increasing the safety, effectiveness, experience and the responsiveness of services.

3. Use good quality benchmarking and performance data, together with insight into service provision to identify where productive opportunities lie.

Looking ahead, developments include the use of routine data to identify outliers in analysis of complications following hip fracture surgery as well as an escalation policy to manage appropriate clinical governance of the pathways. On-going work continues to raise the profile of the audit with the production of quarterly newsletters which focus on practical advice in achieving national standards. The advisory group is working on the development of a person-centred patient and relative/carer information and a communication tool.

The Scottish Hip Fracture Audit website is intended as a portal for NHS staff, patients and carers to obtain and disseminate information relevant to the improved care of hip fracture patients. Any suggestions regarding how we can develop the website would be gladly received.
The audit results demonstrate that, with the continued hard work and dedication of all members of the hip fracture multi-disciplinary team at each hospital in Scotland, continuing improvements in hip fracture quality of care can be made.

Graeme Holt
Chairman, Scottish Hip Fracture Audit and Advisory Group
Key Results: Achievement of Scottish Standards of Care for Hip Fracture Patients in 2016

- Providing early pain relief is essential to improve comfort. However, some of the drugs used can increase the risk of delirium and are not always effective. An injection into a nerve in the thigh called a facia iliaca block is a good alternative: it provides relief from pain and helps to avoid using drugs such as morphine. Facia Iliaca block use in ED increased to 30% in 2016.

- People who suffer from a hip fracture are often frail and elderly and at risk of developing delirium. This condition is associated with increased length of stay, admission to care homes and mortality. Therefore, screening to identify this at the earliest opportunity is a priority. 40% had delirium screening in ED.

- Chronic cognitive impairment is common in people who have fractured their hip. This should be assessed along with testing for the presence of acute delirium. Cognition assessment within 24hrs of inpatient admission continued to improve to 92% in 2016.

- A nutritional assessment can help to identify malnutrition and factors which may prevent people from eating and drinking while in hospital. Rates continue to rise and in 2016, 82% of patients had a nutritional assessment within 24hrs of inpatient admission.

- Delaying surgical repair of the hip fracture has been associated with increased rates of mortality, complications and a longer hospital stay. 31% of people had a delay to theatre greater than 36 hours, usually because of a lack of theatre time or for anaesthetic reasons.

- Many patients presenting with hip fractures are frail and have complex medical problems. Collaborative working with geriatricians has been shown to improve the quality of medical care in this frail group. More people (69%) now have a geriatric assessment within 3 days of admission and this continues to rise.

- A principle aim: to return more people home safely within 30 days

- Osteoporosis risk assessment and treatment is important to assist with the prevention of further fractures. Consideration of bone health continued to improve to 88% in 2016.

- Patients should be offered and encouraged to drink clear fluids to avoid dehydration and relieve thirst. 26% of patients were given oral fluids up to 4 hours prior to theatre... but 22% were not given oral fluids for in excess of 10 hours.

- People who have sustained a hip fracture are frequently malnourished and/or dehydrated on admission to hospital. Therefore, repeatedly fasting patients can exacerbate the issue. 20% of patients were fasted more than once for theatre, varying from 4% to 37% between hospitals.

- Allied Health Professional (AHP) involvement is essential to the rehabilitation process following a hip fracture and early intervention can expedite discharge from hospital. All patients should have access to this specialist input, regardless of whether they live in their own home or in residential/nursing care. 90% of people are seen by a physiotherapist...

...and 63% by an occupational therapist within recommended time scales.

- Chronic cognitive impairment is common in people who have fractured their hip. This should be assessed along with testing for the presence of acute delirium. Cognition assessment within 24hrs of inpatient admission continued to improve to 92% in 2016.

- Providing early pain relief is essential to improve comfort. However, some of the drugs used can increase the risk of delirium and are not always effective. An injection into a nerve in the thigh called a facia iliaca block is a good alternative: it provides relief from pain and helps to avoid using drugs such as morphine. Facia Iliaca block use in ED increased to 30% in 2016.

- Many patients presenting with hip fractures are frail and have complex medical problems. Collaborative working with geriatricians has been shown to improve the quality of medical care in this frail group. More people (69%) now have a geriatric assessment within 3 days of admission and this continues to rise.
Recommendations

1. **Recommendation**  Patients returning safely to their original place of residence within 30 days of sustaining the hip fracture must be the focus. Where possible, rehabilitation should be carried out at home supported by the family and/or community. Many NHS rehabilitation units have less Occupational Therapy (OT) and Physiotherapy (PT) input than acute inpatient wards and often have no input from these services at weekends. Lengthy stays and rehabilitation in an NHS facility can unintentionally hinder both patient and relative confidence and overall wellbeing.

2. Delirium screening, fluid status assessment and inspecting and managing pressure areas remain the least well performed or recorded parts of the Emergency Department (ED) bundle. Further work will target improving these interventions.

   **Recommendation**  Good performance in the 4 hour ED standard (Standard 1) should not compromise achievement of the ‘Big 6’ ED interventions (Standard 2). Delirium screening can be rationalised to the 4AT score (rapid assessment test for delirium) which is quick to perform and must be included in the care bundle.

3. The use of nerve blocks on admission, either fascia iliaca or femoral nerve blocks, has been shown to reduce pain, reduce morphine requirement and reduce the incidence of peri-operative delirium.

   **Recommendation**  The use of fascia iliaca blocks as an opiate-sparing measure should be an aim in all hospitals. Written nerve block protocols support the implementation of this intervention.

   Hospitals are encouraged to develop systems whereby nerve blocks are administered on admission and with appropriate training and governance.

4. There have been major national quality improvement initiatives, alongside the publication of national standards of care for older people, focusing on delirium, falls and pressure care. Nutritional assessments continue to be completed least often.

   **Recommendation**  All hospitals must continue to focus on assessment of falls, cognition, nutrition and pressure care (Standard 3) and ensure that this leads to action to mitigate any identified risk factors.

5. Some hospitals continue to have longer times to operative repair (Standard 4). The most frequent reason for delay is lack of theatre resource (staffing and facility).

   **Recommendation**  Every hospital must continue to develop their trauma practices to ensure efficient use of trauma theatre resource. Evidence of review should include
consideration of how the best reported practice nationally and internationally might be adapted into the local service.

Where it is evident that a consistent lack of capacity does not allow this essential procedure to be undertaken within 36 hours, this must be escalated to the appropriate senior management at health boards.

Departments of anaesthesia should have an agreed protocol for the care of patients with hip fracture which outlines the need for minimal delay, rapid optimisation and daily review of patients who cannot be operated on more quickly. These aspects of care should be supported by local quality improvement activity.

Mortality within 48 hours of admission should trigger a morbidity mortality review using the Scottish Morbidity and Mortality Programme (SMMP)\textsuperscript{5} model. Lessons learned and agreed actions should be disseminated to all team members.

6. Patients who undergo surgery by the end of the day after admission are unlikely to be fasted more than once. Achieving surgery within 36 hours of admission will reduce the chance of repeated fasting cycles (Standard 5).

**Recommendation** Realistic planning of trauma lists will prevent fasting of patients who are unlikely to get to theatre that day because of lack of theatre capacity. Health boards are encouraged to develop local fasting guidelines to ensure the active provision of clear fluids up until 2 hours before surgery.

7. The routine use of urinary catheters in this group of patients has reduced (Standard 6).

**Recommendation** The appropriateness of urinary catheterisation is closely monitored by Health Protection Scotland. This standard will therefore be removed from the Hip Fracture Care Standards.

8. It is recognised nationally that there is a shortage of Consultant Ortho-Geriatrician resource (Standard 8).

**Recommendation** In areas where access to Geriatricians is limited, hospitals are encouraged to expand the skills and roles of other staff to help meet the care requirements of patients and to undertake appropriate assessment.

9. Seven day Physiotherapy and Occupational Therapy service provision varies across the country, with some sites providing services only to patients who have undergone elective surgery and not those who have sustained a traumatic injury i.e. people with a hip fracture (Standards 9 and 10).
Fewer people who reside in nursing homes were assessed, perhaps because on some sites they are fast tracked back to the nursing home. This may have an impact on whether Physiotherapy and Occupational therapy are able to review patients prior to discharge. It is however apparent that meaningful individualised assessment is required for all patients regardless of residential status and this should commence as early in the inpatient stay as possible.

**Recommendation**

In order to encourage proactive planning and a shift to a ‘think home’ way of working, the OT standard (Standard 10) will change to measure the timing of assessment from point of admission rather than following surgery. This change also reduces the bias which can be introduced from an extended time to theatre.

It is recognised that there is notable crossover in the assessment process between the OT and Physiotherapy disciplines and therefore a joint Allied Healthcare Professional (AHP) assessment model seems the most pragmatic approach. The advisory group will produce guidelines on this model.
Audit Results

This section compares the audit data for each hospital against the Scottish Hip Fracture Care Standards and highlights considerable national improvement since the 2012/13 audit. It also identifies areas where the standards have been updated.

**Standard 1**

Patients with a hip fracture should be transferred from the Emergency Department (ED) to the Orthopaedic ward within four hours.

**Rationale**

Following clinical confirmation or diagnosis of a hip fracture, local protocols should ensure the efficient and safe transfer of the patient to an orthopaedic ward. This transfer should not be delayed by a requirement that the patient is reviewed by the receiving orthopaedic team in ED unless diagnostic uncertainty exists. Unless indicated for essential medical interventions, these frail elderly patients should not have an extended stay in an ED as this represents a delay to the area of definitive care.

**fig. 1.1 Time in ED**

excluding patients who were in ED following a transfer from another hospital
Of the 3,431 patients admitted directly to ED during the data collection period, 270 (8%) were in ED for longer than 4 hours. There continues to be considerable variation between the best and worst performing hospitals (fig. 1.1 Time in Emergency Department). Some of this may be attributable to overall workload but ‘exit block’ also remains a major contributor in larger hospitals. This standard aims to emphasise good care within ED rather than making transfer time the main priority. Good performance in the 4 hour ED standard should be married with similar performance in completing all elements of the ‘Big 6’ ED interventions (Standard 2).

We have seen a small increase in the number of patients waiting over 4 hours and a slightly higher percentage of patients waiting between 2 to 4 hours compared to 2015/16 (fig. 1.2—Transfer Time from ED to Ward).
Patients who have a clinical suspicion or confirmation of a hip fracture should have the ‘Big Six’ interventions/treatments before leaving the Emergency Department.

**Rationale**
Every patient who has a clinical suspicion or confirmation of a hip fracture should have the following ‘Big Six’ interventions/treatments in the ED (or earlier if an inter-hospital transfer), as part of a local protocol: provision of pain relief, screening for delirium, early warning system score, full bloods investigation and electrocardiogram, intravenous fluid therapy and pressure area care.

**fig. 2.1**

### ‘Big Six’ ED Interventions/Treatments

**fig. 2.1a**

**Standard 2: Percentage of patients receiving all six ED interventions/treatments**

- **Audit 2012/2013**
- **Audit 2015/2016**
- **Audit 2016**
Considerable improvements in almost all of the ‘Big Six’ interventions from 2012/13 to 2015/16 was apparent, this has however not continued in this most recent data period (fig. 2.1 Big Six ED Interventions).

Since the 2012/13 audit the main improvements in the ‘Big Six’ ED interventions have been in delirium screening, fluid status assessment (and commencing IV fluids for most patients) and inspecting and managing pressure areas within the ED (fig. 2.2 and fig. 2.3 — ED Big 6 by type), but these remain the least well performed elements of the bundle. Further work must target improving the frequency of the completion of these interventions. In particular, delirium screening can be rationalised to the 4AT score which is quick to perform and should be undertaken for all hip fracture patients.
The use of nerve blocks within the ED has increased steadily across Scotland since 2012/13 and has further increased from 18% in 2015/16 to 30% in 2016. There is considerable variation across Scotland, with 7 hospitals providing nerve blocks to at least 50% patients (fig. 2.4—Nerve blocks in the ED). Hospitals that perform well with this recommendation have implemented written nerve block protocols. The use of this type of analgesia as an opiate-sparing measure should be an aim in all hospitals and an ED nerve block protocol should consider fascia-iliac blocks which can be performed without ultrasound safely and quickly.
Standard 3

Every patient with a hip fracture should receive the ‘Inpatient Bundle of Care’ within 24 hours of admission.

Rationale

The inpatient care bundle must be completed within 24 hours of admission to the orthopaedic/receiving ward. These assessments (cognitive, fall, nutritional and pressure area risk assessments) as well as the subsequent interventions, are essential to maximise the quality of care and overall patient outcome through a multi-disciplinary approach to patient care. Involvement with patients and relatives/carers is essential.

fig. 3.1

Inpatient Assessment Bundle

fig. 3.1.a

Standard 3: Percentage of patients receiving all four inpatient assessments
Care in the pre-operative period has continued to improve with 72% of patients now getting all four elements of the bundle (cognitive, falls, nutritional and pressure area assessments) completed within 24 hours of admission.

As demonstrated in successive hip fracture audits, over the past five years there has been a sustained improvement in the assessment of nutritional status (75% to 81%), falls risk (83% to 90%) and assessment of cognitive function (53% to 92%). Assessment of pressure areas has remained around 90%. Notably there have been major national quality improvement initiatives, alongside the publication of national standards of care for older people focusing on delirium, falls and pressure care. Nutritional assessments continue to be completed least often. All hospitals must continue to focus on undertaking all four assessments and ensure that this leads to action to mitigate any identified risk factors.
Standard 4

Patients must undergo surgical repair of their hip fracture within 36 hours of admission.

Rationale

It is essential that the surgical fixation of a hip fracture is expedited. Delayed fixation correlates with increased mortality at one year, increased complications and increased hospital stay. Hospitals must therefore be organised in such a way that facilitates timely and planned surgery without delays, meaning not only adequate theatre capacity for trauma surgery and availability of anaesthetists and surgeons, but also a means of rapidly assessing and optimising frail, elderly patients with multiple co-morbidities.

fig. 4.1

Time to theatre for all patients

fig. 4.1.a

Standard 4: Percentage of patients having surgical repair within 36 hours

Overall performance against the standard has not changed significantly over the last year – 69% achieving surgical repair within 36 hours in 2016 compared to 70% in 2015/16 (it is 76% in the National Hip Fracture Database, April 2017\textsuperscript{6} in England, Wales and Northern Ireland). Of note is the significant variation in the ability of individual hospitals to provide a timely operative repair.
Lack of theatre resource (staffing and facilities) is the single largest cause of delay, with variation across hospitals. The percentage of patients who were classed as being medically unfit for theatre within 36 hours (or who required further medical optimisation) varied between 5% and 23% between hospitals and may reflect differences in local clinical decision-making.

The Trauma and Orthopaedics ACCESS\textsuperscript{3} review has drawn attention to the problem of delay to theatre for trauma patients and has challenged the relevant Boards to address this issue. Local quality improvement activity and service redesign may address facility availability but recruitment and retention of staff must remain a focus with its many challenges to fix.
Standard 5

No patients should be repeatedly fasted in preparation for surgery. In addition, oral fluids should be encouraged up to two hours prior to surgery.

Rationale
Repeated fasting cycles occur when patients are fasted for surgery and then cancelled and results in limited oral intake over a number of days. This should be avoided with careful and realistic planning of theatre lists and ensuring adequate theatre capacity. Communication between the theatre/ward teams and the patient (including relatives/carers) is essential. This collaborative approach can be facilitated through a nurse-led trauma liaison service.

**fig. 5.1**  Was fasting cycle repeated?

Data was not collected during the 2012/13 audit

**fig. 5.1.a**  Standard 5.1: Percentage of patients fasted only once for surgery

Repeated fasting represents an ongoing issue in this group of patients who are already at risk of malnutrition. Health boards that achieve a low percentage of repeated fasting cycles also tend to be successful in operating within 36 hours of admission. Although there has been a slight
improvement from the 2015/16 audit into 2016, nearly 20% of patients continued to be fasted more than once.

fig. 5.2  When were clear oral fluids stopped prior to induction of anaesthetic?

![Graph showing percentage of patients where oral fluids were not withheld for more than four hours](image)

**fig. 5.2.a  Standard 5.2: Percentage of patients where oral fluids were not withheld for more than four hours**

Patients should be encouraged to drink clear fluids up to two hours before surgery, yet more than one in five patients continue to have oral fluids withheld for more than 10 hours prior to surgery. Attaining this standard continues to be challenging, the standard of care having fallen slightly from the 2015/16 audit into 2016.
**Standard 6**

**Pre-operative catheterisation should only be carried out for identified medical reasons and not be used as ‘routine’ practice.**

**Rationale**

Pre-operative catheterisation should only be carried out for identified medical reasons and not used as ‘routine’ practice. SIGN 111 recommends that insertion of urinary catheters should be avoided, except within specific circumstances such as urinary retention or need for accurate fluid balance.

**fig. 6.1 Catheterisation**

Following consultation with urology colleagues, it has been determined that the appropriateness of urinary catheterisation is outwith the scope of this audit. It is closely monitored by Health Protection Scotland and therefore will be removed as a specific standard from the hip fracture standards.
Standard 7  Cemented hemi-arthroplasty implants should be used as standard unless clinically indicated otherwise.

Rationale  Use of cemented hemi-arthroplasty implants should be standard, as recommended by NICE(CG124)/SIGN111, unless specifically contra-indicated by significant operative risk. The patient’s pre-existing ambulatory status should be a consideration when selecting the type of implant.

fig. 7.1  Hemi-arthroplasty—use of cement

2016 data only collected in November and December

fig. 7.1.a  Standard 7: Percentage of patients given hemi-arthroplasties who had them cemented

In 2012/13, 70% of patients underwent hemi-arthroplasty with cemented implant designs which has risen to 90% in this audit cycle, although variation in practice continues to be observed. The percentage of cemented implants used varies from 40% to 100% between hospitals. This is contrary to the recommendations and evidence-base presented in both SIGN 111 and the NICE Guideline CG124 for the management of hip fractures. That being said, 14 out of the 19 hospitals
used cemented implants for at least 90% of hemi-arthroplasties, with much less variation observed than was the case in the 2012/13 audit.

**fig. 7.2**  
**Type of operation**

The use of total hip replacement for intra-capsular hip fractures remains fairly constant at approximately 6% of all hip fracture cases. Total hip arthroplasty accounts for approximately 12% of all arthroplasty procedures for hip fracture patients. This is similar to 2015/16 but has increased from 8% in the 2012/13 audit. This percentage remains lower than might be expected based on current published recommendations. The use of ‘pin and plate’ fixation has remained relatively constant and remains the predominant treatment of choice for extra-capsular hip fractures. The use of intra-medullary implants has increased from 5.5% in 2012/13 to 9% in 2016 and varied from 0% to 19% between hospitals.
Standard 8  

Every patient who is identified locally as being frail should receive geriatric assessment within three days of admission.

Rationale  

Many patients presenting with hip fractures are frail and have complex medical problems. Collaborative working with Geriatricians has been shown to improve the standards of medical care in this frail group.

fig. 8.1  

Time until geriatric assessment

Access to Comprehensive Geriatric Assessment (CGA) within three days of admission has continued to improve, with approximately 68% of hip fracture patients now achieving this standard compared to only 25% in 2012/13. However, considerable variation still exists between hospitals. Some sites now use Advanced Nurse Practitioners and non-Consultant Geriatrician medical staff to enhance the delivery of CGA in a timely manner. It is recognised nationally that there is a shortage of Consultant Ortho-Geriatrician resource. In areas where access to Geriatricians is limited, hospitals are encouraged to expand the skills and roles of other staff to help meet the care requirements of patients.
**Standard 9**

Mobilisation should have begun by the end of the first post operative day and every patient should have a Physiotherapy assessment by end of day two.

**Rationale**

Early mobilisation, in combination with post-operative Physiotherapy, may be of value in reducing pulmonary complications, optimising early recovery and reducing falls. If the patient’s overall medical condition allows, mobilisation and multidisciplinary rehabilitation should begin by the first post operative day.

**fig. 9.1**

Mobilisation

**fig. 9.1.a**

Standard 9.1: Percentage of patients who were mobilised by the end of the first day post-op

On average 68% of patients were mobilised by the end of the first day following surgery which is similar to the 66% achieved in 2015/16. 18% of patients were mobilised by the end of day 2 and 14% by day 3 or not at all.
Overall, as in 2015/16, 90% of hip fracture patients had received a Physiotherapy assessment by day 2 following surgery.
Standard 10

Patients with a hip fracture should have an Occupational therapy assessment by the end of day three post-operatively.

**Rationale**

Occupational therapy (OT) contributes to both enabling patients to regain function post-operatively and assessing the need for support following discharge. It is likely that OT input will continue in rehabilitation settings and inform the on-going discharge processes. Patients being discharged to their own home or a care home can also benefit from OT input. The communication link between OT services in Secondary and Primary/Community care is essential so that patients can return to their original place of residence with confidence and support, this being the preferable model rather than traditional ‘rehab’ in NHS facilities.

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**fig. 10.1**

Time from surgery until seen by OT

Across all sites 63% of hip fracture patients had been reviewed by occupational therapy by the end of day 3 post-operatively. This is an increase from 31% in 2012/13.

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**fig. 10.1.a**

Standard 10: Percentage of patients having OT assessment by the end of the third day post-op

Across all sites 63% of hip fracture patients had been reviewed by occupational therapy by the end of day 3 post-operatively. This is an increase from 31% in 2012/13.
Every patient who has a hip fracture should have an assessment of their bone health prior to leaving the acute orthopaedic ward.

Rationale: Osteoporosis risk assessment and treatment is integral to the prevention of further fractures alongside falls prevention strategies.

**fig. 11.1** Bone protection medication assessment

![Bone protection medication assessment graph](image)

2016 data only collected in November and December

**fig. 11.1.a** Standard 11: Percentage of patients having bone health actions undertaken or planned

Although sample sizes are still small (routine collection of this data only started in November 2016), there has been a continuing improvement in numbers of patients assessed for bone protection since 2012/13, but variation remains across Scotland.
Standard 12  
Every patient’s recovery should be optimised by a multi-disciplinary team approach so that they are discharged safely back to their original place of residence within 30 days from the date of admission.

The main aim of this improvement work is to “get patients back to their original place of residence as rapidly as possible, whilst optimising their ability to retain their independence”. This should be achieved by optimising the pathway of care during their acute hospital stay and a seamless and supported transition back to the original place of residence within 30 days from date of admission.

Fig. 12.1  
Percentage of patients admitted from home or a care home who were again resident there at 30 days post-admission

Fig. 12.1.a  
Standard 12: Percentage of patients returned to original residence within 30 days of admission

Post-discharge data not collected from Ayr, Crosshouse, GRI or Western Isles in 2012/13. Representative data not available from Aberdeen in 2016.
fig. 12.2  Median length of acute orthopaedic stay by discharge destination

![Graph showing median length of acute orthopaedic stay by discharge destination.]

Sample sizes (Own home/Care home/Rehab) are given in brackets. Medians reflect normal practice and, compared to mean values, are less likely to be influenced by a small number of patients with lengthy admissions as a result of specific medical problems.

fig. 12.3  Median length of total hospital stay

![Graph showing median length of total hospital stay.]

A principle focus is the safe return of patients to their original place of residence within 30 days of sustaining a hip fracture. Returning to the patient’s original place of residence quickly is reported as one of the most important outcomes to both patients and relatives. Where possible, rehabilitation should be carried out at home supported by the family and/or community. Many NHS rehabilitation sites have less OT and PT input than the acute inpatient ward and often has no OT/PT input at the weekend. Lengthy hospital and rehabilitation stays in an NHS facility can unintentionally hinder both patient and relative confidence and overall wellbeing.
Improvement teams at each hospital should use the measures in this section (Home within 30 Days, Length of Stay by Discharge Destination, Total Stay and % by Discharge Destination), alongside the balancing measure of Readmission to focus on delivering the best possible outcome for the patient.
Supporting Continuous Local Quality Improvement through National Audit Data

Facilitating a continuous cycle of local quality improvement forms one of the key elements of the Scottish Hip Fracture Audit and Improvement programme’s development aims for 2017/18. To achieve this objective hospitals have been encouraged to develop local forums where audit data can be regularly reviewed, improvements identified and action plans progressed. To support this process, monthly routine production of exception reports were introduced in February 2017. This expedites local identification of patients who did not meet one or more of the standards, allowing further review of practice.

In order to further facilitate continuous local improvement, the charts below have been created for each hospital to show which standards are missed most frequently. These pareto charts are a way of ordering data to provide focus to improvement work. In this case, achievement of the national hip fracture standards have been ordered by the frequency in which they are achieved on an individual patient basis. Those on the left are those which are most frequently not achieved for each patient whilst those on the right are achieved for most patients. The standards which appear above the red line are those which, if improved upon, would have most impact on achievement of the national standards.

Although the standards which are most frequently not achieved perhaps represent those where clinical practice or service redesign have been difficult to influence, they should still be seen as a priority for continuous improvement.

If any further information is required on the results below, please contact the National Clinical Coordinator for advice (see Appendix B).

Ayr Hospital: Oral fluids stopped in excess of four hours prior to surgery, access to Geriatric assessment.

Crosshouse Hospital: Oral fluids stopped in excess of four hours prior to surgery, access to Geriatric assessment.
BGH: Oral fluids stopped for in excess of four hours prior to surgery, completion of ED big 6 bundle.

DGRI: Oral fluids stopped for in excess of four hours prior to surgery, completion of ED big 6 bundle.

Victoria Hospital, Fife: Completion of ED big 6 bundle, Oral fluids stopped for in excess of four hours prior to surgery.

Forth Valley Royal Hospital: Completion of ED big 6 bundle, Oral fluids stopped for in excess of four hours prior to surgery.

Aberdeen Royal Infirmary: Oral fluids stopped for in excess of four hours hours prior to surgery, completion of ED big 6 bundle.

Dr Gray's Elgin: Completion of ED big 6 bundle, oral fluids stopped for in excess of four hours prior to surgery, access to Geriatric assessment.
Scottish Hip Fracture Audit • Hip Fracture Care Pathway Report 2017

GRI: Completion of ED big 6 bundle, oral fluids stopped for in excess of four hours prior to surgery, OT assessment within three days of surgery.

RAH: Oral fluids stopped for in excess of four hours prior to surgery, numbers who return to their original residence within 30 days.

Raigmore: Oral fluids stopped for in excess of four hours prior to surgery, completion of ED big 6 bundle, numbers who return to their residence within 30 days.

QEUH: Completion of ED big 6 bundle, oral fluids stopped for in excess of four hours prior to surgery.

Inverclyde Royal Hospital: Access to geriatric assessment, oral fluids stopped for in excess of four hours prior to surgery, completion of ED big 6 bundle.

Raigmore: Oral fluids stopped for in excess of four hours prior to surgery, completion of ED big 6 bundle, numbers who return to their residence within 30 days.

RIE: Oral fluids stopped for in excess of four hours prior to surgery, completion of ED big 6 bundle, theatre within 36 hours.
Scottish Hip Fracture Audit • Hip Fracture Care Pathway Report 2017

Hairmyres: Oral fluids stopped for in excess of four hours prior to surgery, inpatient assessment bundle, ED big 6 bundle, numbers of people who return to their residence within 30 days, theatre within 36 hours.

Ninewells Hospital: Completion of ED big 6 bundle, oral fluids withheld for in excess of four hours prior to surgery.

Wishaw General Hospital: Access to geriatric assessment, completion of ED big 6 bundle, oral fluids stopped for in excess of four hours prior to surgery.

Perth Royal Infirmary: Completion of ED big 6 bundle, OT assessment within three days of surgery, oral fluids withheld for in excess of four hours prior to surgery.

Western Isles Hospital: Access to geriatric assessment, oral fluids withheld for in excess of four hours prior to surgery.
## Appendices

### A Hospital Abbreviations and Data Completeness

Number of patients audited from May to December 2016 and included in this report and number of known hip fracture admissions not audited during the same time period.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number of patients audited</th>
<th>Hip fracture admissions not audited</th>
<th>% audited</th>
<th>Reasons not audited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayr</td>
<td>79</td>
<td>59</td>
<td>57%</td>
<td>LAC vacancy</td>
</tr>
<tr>
<td>Crosshouse</td>
<td>103</td>
<td>67</td>
<td>61%</td>
<td>LAC vacancy</td>
</tr>
<tr>
<td>BGH</td>
<td>52</td>
<td>5</td>
<td>91%</td>
<td>LAC vacancy</td>
</tr>
<tr>
<td>DGRI</td>
<td>147</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Fife</td>
<td>256</td>
<td>22</td>
<td>92%</td>
<td>LAC leave</td>
</tr>
<tr>
<td>Forth Valley</td>
<td>280</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Aberdeen</td>
<td>65</td>
<td>367</td>
<td>15%</td>
<td>LAC vacancy</td>
</tr>
<tr>
<td>Elgin</td>
<td>95</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>GRI</td>
<td>282</td>
<td>11</td>
<td>96%</td>
<td>LAC leave</td>
</tr>
<tr>
<td>QEUH</td>
<td>314</td>
<td>165</td>
<td>66%</td>
<td>Lack of LAC resource</td>
</tr>
<tr>
<td>RAH</td>
<td>279</td>
<td>7</td>
<td>98%</td>
<td>LAC leave</td>
</tr>
<tr>
<td>Inverclyde</td>
<td>131</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Raigmore</td>
<td>244</td>
<td>5</td>
<td>98%</td>
<td>LAC leave</td>
</tr>
<tr>
<td>Haimyres</td>
<td>151</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Monklands</td>
<td>119</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Wishaw</td>
<td>209</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>RIE</td>
<td>660</td>
<td>26</td>
<td>96%</td>
<td>LAC leave</td>
</tr>
<tr>
<td>Ninewells</td>
<td>329</td>
<td>9</td>
<td>97%</td>
<td>LAC leave</td>
</tr>
<tr>
<td>Perth</td>
<td>121</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Western Isles</td>
<td>26</td>
<td>0</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td><strong>All Sites</strong></td>
<td><strong>3,942</strong></td>
<td><strong>743</strong></td>
<td><strong>84%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Throughout the text and figures, hospitals are referred to by a shortened version of their name. This is familiar to clinicians and managers for brevity, but is also used because of requests from individual hospitals or because it better describes the overall orthopaedic and multi-disciplinary service run by the surgical hospital.
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Acknowledgements

This report could not have been prepared without the dedicated work of the Local Audit Coordinators who tirelessly collected and validated this information as well as providing an essential link role between audit and clinical staff to close the improvement audit loop.
References


D Access to the Trauma and Orthopaedic Dashboard

Audit data is routinely updated on this web based platform each month and is provided for multi-disciplinary teams to measure and monitor the sustainability of their improvement actions. To become an approved user of the Trauma & Orthopaedic Portal please go to NSS User Access System. Select “Specialty Information Portal” from the list of products, as this includes the Trauma Orthopaedic Portal.

For help with registration please go to:
www.isdscotland.org/Products-and-Services/Datamarts/User-Support

If you have any issues or questions please contact the team at:
NSS.TraumaandOrthopaedicPortal@nhs.net