

ROYAL College of Emergency Medicine

# FRACTURED NECK OF FEMUR

# NATIONAL QUALITY IMPROVEMENT PROJECT

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# NATIONAL REPORT 2020/21

Published: June 2022

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## Foreword



#### Dr Katherine Henderson, RCEM President

The Royal College of Emergency Medicine is pleased to highlight the core business of caring for Fractured Neck of Femur patients in Emergency Departments in this report.

This QIP builds on previous Fractured Neck of Femur work by the College and allows us to see whether progress has been made in establishing appropriate standards and measures to ensure all patients with fractured neck of femur issues are as safe as possible in our Emergency Departments.

The College is dedicated to improving the quality of care in our Emergency Departments through these important QIPs, undertaking all obligations to ensure the best measures of patient safety are obtained.

The RCEM Quality Assurance and Improvement Committee are

committed to continually evaluating the QIPs and improving them to best support you and improve patient care. We are aware that there are improvements we can make to strengthen local QI support, provide clearer data visualisation, and better communications. We welcome your feedback, ideas and experiences to help us.

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Dr Katherine Henderson, RCEM President

Dr Simon Smith, Chair of Quality in Emergency Care Committee

Dr Dale Kirkwood Co- Chair of Quality Assurance & Improvement Subcommittee

Dr Fiona Burton Co- Chair of Quality Assurance & Improvement Subcommittee

# **Executive Summary**

#### Overview

RCEM would like to thank every Emergency Department (ED) that participated in this Quality Improvement Project (QIP). Over a period of 6 months, this RCEM QIP has accumulated **13949** individual cases from **159** emergency departments nationwide. This report represents a large scale national QIP delivered over a shared platform providing QI tools and real-time data with which individual departments were able to use.

The primary driver was to improve patient care provided to adult patients in the ED who have a diagnosis of fractured neck of femur. RCEM has identified current performance in EDs against nationally agreed clinical standards.

#### **Key Findings**

For the period 5 October 2020 – 2 April 2021, the National results demonstrated:

- 49% of patients had their pain assessed on arrival at hospital within 15 minutes
- 15% of patients had received appropriate analgesia for their pain within 30 minutes
- 56% of patients had received an X-ray within 90 minutes.
- Only 3% of patients had received documented evidence of re-evaluation and action within 30 minutes of the first dose of analgesic

#### Conclusion

Only half of patients with a fractured neck of femur had pain assessed within 15 minutes of arrival (Standard 1). Towards the end of the data collection period there was a shift above the mean on the Statistical Process Chart (SPC) indicating that a national improvement had been made over the course of the project. Whilst this is very encouraging further improvements are still required to sustain this improvement and improve further.

Only 15% of patients with moderate to severe pain were recorded to have received analgesia within 30 minutes (Standard 2), a poor performance and an area that requires action by EDs throughout the UK. RCEM considers this a fundamental standard. The SPC chart did not demonstrate any improvement over the course of the project. A core tenet of quality Emergency Medicine care is to address pain in a timely manner. Addressing the distress caused by pain with effective interventions needs to be an absolute priority of all staff working in Emergency Departments. 56% patient had an x-ray within 90 minutes (Standard 3) with a national mean time to x-ray of 103 minutes. The SPC chart did not demonstrate any improvement over the course of the project. Early x-ray and diagnosis of fractured neck of femur allows for earlier definitive analgesia in the form of a fascia iliaca block and a reduction in the need for opiates. Concentrating on ensuring the process steps in the neck of femur pathway are efficient will improve patient experience and outcomes.

Although only 3% patients had documented evidence of a pain reassessment, 99% of Emergency Departments report they insert fascia iliaca blocks for patients. This indicates that pain management is being addressed during the patient journey.

The organisational data demonstrated improvements in the number of EDs that have a NOF lead from 51% to 70% and the use of fascia iliaca blocks has increased from 93% to 99%.

There is still a lot of room for improvement in the pain management of this patient group. The Covid pandemic has affected department's ability to effect improvements due to the significant pressures and challenges faced by EDs. This report will highlight the need to continue improvement work in this space and provide ideas that could form the basis of further PDSA cycles.

#### Key recommendations

- Every ED should have a fractured neck of femur pathway and apply QI methodology to improve;
  - a. time to pain assessment,
  - b. time to analgesia,
  - c. time to x-ray and,
  - d. time to FIB.
- 2. Every ED should have nursing and medical leads for FNOF to champion the cause and steer improvement work.
- Every ED should use a behavioural pain scoring tool for patients with cognitive impairment
- ED's to review effectiveness of *Plan, Do,* Study, Act (PDSA) cycles and engage all ED staff in this process.
- 5. Triage nurses need to be supported and assisted in delivering timely *and effective* initial analgesia to any patient presenting with moderate or severe pain This would form the basis of an important QI project in itself.
- 6. Departments that have seen local improvements are encouraged to share good practices and submit case studies to RCEM.

# Introduction

The purpose and primary driver of the QIP was to improve the care provided to adult patients in the ED who had sustained a fractured neck of femur, over a 6-month period of continuous data collection. In this report, RCEM presents the current performance of EDs against nationally agreed clinical standards during that time period.

#### Background

66,313 patients a year (<u>National Hip Fracture</u> <u>Database 2019 Annual Report</u>) across England, Wales, Northern Ireland and 7146 in Scotland (<u>The Scottish Hip Fracture Audit (SHFA) Hip</u> <u>Fracture Care Pathway Report 2019</u>) suffered a fractured neck of femur, of which 96% of patients were admitted via the Emergency Department (ED) between January and December 2018. Our focus is on expedient high-quality care delivered by early recognition and analgesia at triage, onward diagnostic imaging and more definitive emergency pain relief through nerve blocks.

#### **Problem description**

Key findings from the <u>2017/2018 FNOF QIP</u> organisational data showed:

- Only 51% of EDs had a nominated lead for hip fracture management.
- Only 35% of EDs provided information leaflets for patients, carers or relatives.
- 93% of EDs had the necessary equipment and staff to perform a nerve block

Patient data findings from 2017/2018 FNOF QIP:

- 93% of patients with #NOF arrived by ambulance yet only 66% had documented evidence of having received analgesia before arrival.
- There was wide variability of pre-hospital analgesia between EDs, ranging from 0-98% of patients.
- EDs were recording pain scores better and this has consistently improved since 2003.
- These results showed that if a pain score was recorded patients received analgesia sooner, especially if the pain score was high.

Re-evaluation of pain is important but was not done well (only in 40%) and not done in a timely manner.

#### Patient demographics

In this dataset 87% of patients with a hip fracture are over 70, the median age is 83. 22.7% of patients are over 90, despite representing only 0.9% of the UK population (2020 Census). A significant proportion of these will have cognitive impairment making our need to identify, diagnose and provide effective pain management in the ED even more pertinent to adequately serve this vulnerable patient group.

#### Rationale

The Quality Improvement Project (QIP) aimed to track the current performance in EDs against clinical standards in individual departments and nationally on a real time basis over a 6-month period. The aim was for departments to be able to identify where standards were not being reached so they could do improvement work and monitor change in real time.

The project focused on:

- Type of pain relief
- Expedience of effective care

#### National Drivers

- RCEM's 2017/2018 Fractured Neck of Femur Clinical Audit Report [3] highlights the findings from EDs
- Hip Fracture Care Pathway Report 2019
   [6]
- The care of the older or frail orthopaedic trauma patient [5]
- The National Hip Fracture Database 2019 Annual Report [7]
- Scottish Standards of Care for Hip Fracture Patients 2018 [4]
- NICE GUIDANCE / Standards on FNOF [1, 2]

#### Specific objectives

The national objectives of the QIP were to improve the care provided to adult patients in the ED who had sustained a fractured neck of femur by:

- identifying current performance in EDs against clinical standards
- Showing EDs their performance in comparison with performance nationally and in the ED's country in order to facilitate quality improvement
- Empowering and encouraging EDs to run quality improvement (QI) initiatives based on the data collected and assess the impact of the QI initiative on their weekly performance data

#### Local objectives:

- 1. To improve pain assessment at patient presentation including those with cognitive impairment.
- To improve the response to the pain assessment through provision of analgesia within 30 minutes for patients in moderate or severe pain.
- 3. To improve timeliness of X-ray.
- 4. To improve re-evaluation of pain and appropriate action within 30 minutes.
- To improve time to fascia iliaca block The definitive analgesia that can be offered in the ED and reduce opiate use and associated side effects in older people.

## Methodology

For a detailed description of the methodology used in the QIP, please see the <u>information pack</u>

#### Intervention

All Type 1 EDs in the UK were invited to participate in August 2020. Data samples were submitted using an online data collection portal. The QIP was included in the NHS England Quality Accounts list for 2020/2021.

Participants were asked to collect data from ED patient records on cases who presented to the ED between 5 October 2020 – 2 April 2021 and encouraged to continue PDSA cycles and data collection beyond this locally to continuously improve and further drive up standards.

#### **Quality Improvement Project**

This QIP has been encouraged towards QIP methodology by providing real-time feedback and introducing an integrated PDSA tool. Measurement of the data against the standards enabled change in practice, with resultant improvement tracked using weekly SPC charts. These are recommended by NHS England, along with other tools that can be found on the personalised dashboard on the RCEM's QIP portal.

#### Measures

The national level data provides a benchmark so individual units who are below the national average can take steps to improve. Shifting towards a QIP methodology focuses on improvement so even those above the mean are encouraged to act locally to further develop their service. The aim being to increase the overall average and reduce the disparity between the best and worst performing departments. As this was the first time the FNOF project was conducted using QI methodology we aimed not to be prescriptive about specific measures as individual departments were likely to need to work on different aspects of fracture neck of femur care. Following the results there are recommendations about suggested measures to use to further improve.

# Standards

Standards	Grade
1. Pain is assessed immediately upon presentation at hospital	F
<ol> <li>Patients in moderate or severe pain (e.g. pain score 4 to 10) sho receive appropriate analgesia within 30 minutes (or in accordance local guidelines) unless there is a documented reason not to</li> </ol>	ould <b>F</b> ce with
3. Patients should have an X-ray at the earliest opportunity	D
4. Patients with severe or moderate pain should have documented of re-evaluation and action within 30 minutes of receiving the first analgesic.	l evidence D st dose of

# Questions and data collected

#### Organisational

Q1	Is there a lead for hip fracture management in the ED?	<ul><li>Yes</li><li>No</li><li>Unknown</li></ul>
Q2	Is there a written protocol/ pathway for hip fracture management in the ED?	<ul><li>Yes</li><li>No (please skip to Q4)</li><li>Unknown (please skip to Q4)</li></ul>
Q2a	Does this include information on when to perform an MRI or CT scan if the X-ray appears normal?	<ul><li>Yes</li><li>No</li><li>Unknown</li></ul>
Q2b	Does this include a fast track service for x-ray?	<ul><li>Yes</li><li>No</li><li>Unknown</li></ul>
Q2c	Do you use a pain tool appropriate for a patient with impaired cognition e.g. Abbey Pain scoring	<ul><li>Yes</li><li>No</li><li>Unknown</li></ul>
Q3	Is written information about hip fracture available for patients and/or their relatives or carers?	<ul><li>Yes</li><li>No</li><li>Unknown</li></ul>
Q4	Is there the necessary equipment/trained staff to perform a nerve block in the ED?	<ul><li>Yes</li><li>No</li><li>Unknown</li></ul>
Q5	Is there a guideline for use of nerve block including monitoring post procedure	<ul><li>Yes</li><li>No</li><li>Unknown</li></ul>
Q6	Is there a training programme for insertion of nerve blocks?	<ul><li>Yes</li><li>No</li><li>Unknown</li></ul>
Q7	Is there a protocol for reversing anticoagulation?	<ul><li>Yes</li><li>No</li><li>Unknown</li></ul>

### Clinical

#### Patient details

Q1.1	Reference (do not enter patient identifiable data)	
Q1.2	Date and time of arrival or triage – whichever is earlier	dd/mm/yyyy HH:MM
Q1.3	Ethnic group	<ul> <li>White British</li> <li>White Irish</li> <li>Any other White background</li> <li>White and Black Caribbean</li> <li>White and Black African</li> <li>White and Asian</li> <li>Any other mixed background</li> <li>Indian</li> <li>Pakistani</li> <li>Bangladeshi</li> <li>Any other Asian background</li> <li>Caribbean</li> <li>African</li> <li>Any other Black background</li> <li>Chinese</li> <li>Any other ethnic group</li> <li>Not stated e.g. unwilling to state</li> </ul>
Q1.4	Age band	

#### Pain and analgesia

		Yes (select option where applicable)	Time (leave blank if unknown)	Date (if different to date of admission)	No (select option where applicable)
Q2.1	Was pain assessed on arrival (within 15 mins?)	<ul> <li>No pain</li> <li>Mild (1-3)</li> <li>Moderate (4-6)</li> <li>Severe (7-10)</li> </ul>	HH:MM	dd/mm/yyyy	<ul> <li>Not recorded</li> <li>Not able to assess pain</li> </ul>
Q2.2	Was a validated pain assessment tool used? If yes, please specify what tool was used.	• Yes			• No
Q2.3	Was analgesia <b>administered</b> in the ED?	<ul> <li>Paracetamol</li> <li>Opiate (oral)</li> <li>Opiate (IM or IV)</li> <li>Fascia Illicia Block</li> <li>Other: (please specify)</li> </ul>	HH:MM	dd/mm/yyyy	<ul> <li>No pain/mild pain</li> <li>No – was administered pre- hospital</li> <li>Not accepted</li> <li>No – the analgesia was contraindicated</li> <li>No – another reason was recorded</li> <li>Not recorded</li> </ul>

Q2.4	Was pain re-assessed in the ED?	<ul> <li>No pain</li> <li>Mild (1-3)</li> <li>Moderate (4-6)</li> <li>Severe (7-10)</li> </ul>	HH:MM	dd/mm/yyyy	<ul> <li>Not recorded</li> <li>Not able to re-assess pain</li> </ul>
Q2.5	Was a second dose of analgesia administered in the ED?	• Yes	HH:MM	dd/mm/yyyy	<ul> <li>Not offered</li> <li>Not accepted</li> <li>No – but the reason was recorded</li> <li>Not recorded</li> </ul>
Q2.6	Was analgesia in a (Please consult y the data collectio	accordance with local g our local guideline w n)	juidelines? hen doing	<ul> <li>Yes, fully as analgesic la</li> <li>Yes, partiall</li> <li>No, it was n</li> <li>No local gui</li> </ul>	per pain assessment & dder y ot delines exist

#### Diagnosis

		Yes (select option where applicable)	Time	Date (for use if different to date of admission)	No (select option where applicable)
Q3.1	Was an X-ray completed whilst patient was in the ED?	• Yes	HH:MM	dd/mm/yyyy	<ul><li>No</li><li>Done before arrival</li></ul>

# Results

#### Participants

Nationally, 13949 cases from 159 EDs were included in this QIP.

Right-click and select open hyperlink to access an interactive map of participating EDs.



Country	Number of relevant EDs	Number of cases *		
National total	159/234 (68%)	13949		
England	146/177 (82%)	12862		
Scotland	2/29 (7%)	179		
Wales	6/13 (46%)	556		
Northern Ireland	4/11 (36%)	330		
Isle of Man / Channel Islands	1/4 (25%)	22		
* analysis includes complete cases only				

# Ethniticity data

The table and chart below show the demographics of patients included in this national QIP. RCEM is undertaking further analysis of whether ethnicity affects the quality of care which will be presented in a separate report. This was the first time we attempted to collect such data with the hope of providing insights into potential variations between various ethnic groups. Unfortunately, much of the data was reported as 'not specified'. We need to explore further why this is occurring. Causes may range from incomplete data on the patient record or simply the fact the people entering data are unsure where to find this information. We will continue to promote accurate collection of such data as an ongoing measure to increase awareness of health disparities and the need to explore where a pateints ethnicity might contribute to disparities in the delivery of healthcare.

Please see Appendix 2 for ethnicity data against each of our 4 selected standards.

#### Ethniticity data

4	White and Black African
10	Chinese
10	White and Asian
10	Bangladeshi
11	African
12	Any other Black background
14	Caribbean
15	White and Black Caribbean
18	Any other mixed background
33	Pakistani
54	Any other Asian background
82	Indian
136	Any other ethnic group
140	White Irish
314	Any other White background
	Not stated e.g. unwilling to state
	White British
-	

10413

ETHNICITY	NUMBER	PERCENTAGE
White and Black African	4	0.03%
Bangladeshi	10	0.07%
White and Asian	10	0.07%
Chinese	10	0.07%
African	11	0.08%
Any other Black background	12	0.09%
Caribbean	14	0.10%
White and Black Caribbean	15	0.11%
Any other mixed background	18	0.13%
Pakistani	33	0.24%
Any other Asian background	54	0.39%
Indian	82	0.59%
Any other ethnic group	136	0.97%
White Irish	140	1.00%
Any other White background	314	2.25%
Not stated e.g. unwilling to state	2673	19.16%
White British	10413	74.65%

2673

QIP

# Performance against clinical standards



Fundamental standard STANDARD 1:

Pain is assessed immediately (<15 minutes) upon arrival at hospital



#### All patients, except those that pain could not be assessed (n=13484) - 6488 conformed to standard

#### Understanding this SPC chart - See appendix

#### Exclusions

Cases where pain assessment was recorded as before or 24-hours after arrival. N = 67

#### Commentary

- The mean reflects that 48.6% of patients had their pain assessed as soon as they arrived at hospital.
- A significant dip below the mean occurs around November to December. It may be due to winter
  pressures, as well as the second COVID-19 surge experienced nationally with exponential admissions to
  EDs.
- From the end of December, following this dip, the percentage moves in an upward direction and by the end of the project a shift above the mean has occurred indicating special cause variation and an improvement in performance. This indicates a degree of recovery from that which caused the significant dip and may be an early signal of continued improvement nationally.
- Triage would typically include a pain assessment and we should aim to complete triage within 15 minutes. Surges in demand often results in delays to triage and therefore pain assessment being intrinsically linked

- Continue to collect data to see if there is continued improvement for this standard.
- Use <u>QI tools</u> to better understand your triage system and identify the areas where changes can be made.

- This may be done as it's own QI initiative looking at all presenting complaints involving pain
- Analyse local data during the significant dip to assess the impact the second surge may have had on patients' having their pain assessed immediately. This may facilitate learning about where to consider changes.
- Highly performing ED's are asked to share their practice to allow learning within the EM community.

#### **STANDARD 1:**

Pain score as assessed on arrival



#### All patients (n=13882)

#### Exclusions

• Cases where pain assessment was recorded as before or 24-hours after arrival. N = 67

#### Commentary

- We have included the responses for all eligible patients, including those who did not have their pain assessed on arrival. This is to highlight that 3% were categorised as, 'not able to assess pain'. This may reflect perceptions that vulnerable patient groups with cognitive impairments cannot be assessed and this would be concerning as assessment tools do exist e.g. The Abbey Pain Tool.
- Of the patients with a pain score documented:
  - 11.3% had no pain
  - 15.6% had mild pain
  - o 25% had moderate pain
  - o 17.9% had severe pain.
  - o 27.4% did not had information recorded for the pain assessment
  - o 2.9% could not have their pain assessed

- All patients should have their pain assessed and severity scored during triage to guide appropriate analgesic intervention within 30 minutes.
- Review case notes for those 'not able to assess pain' to identify any learning needs in the department. Using a behavioural pain-scoring tool, e.g. the Abbey Pain tool, is recommended for patients with cognitive impairment. This can be highlighted in departmental teaching.



A validated pain assessment tool was used



#### All patients (n=9687) - 8353 records conformed to standard

#### Commentary

- This chart shows that a validated pain assessment tool had been used in nearly 90% of cases.
- The 2017-8 report highlighted how those with a recorded pain assessment received analgesia earlier than those without. The gap in assessments of patients with cognitive impairment may be resulting in gaps in management in this vulnerable patient group.

- All patients should have their pain assessed and recorded using an appropriate validated pain assessment tool to support effective analgesic intervention. Typically this is the linear 0-10 scale. However not all patient can communicate pain in such a manner and therefore;
  - Usage and training of triage nursing staff and clinicians on how to provide a pain assessment in cognitively impaired individuals. A useful tool is the Abbey pain tool.



Patients in moderate or severe pain should receive appropriate analgesia within 30 minutes unless there is a documented reason not to



All patients with moderate or severe pain that received analgesia (n=4897) - 749 records conformed to standard

Understanding this SPC chart - See appendix

#### Exclusions

 Patients who received analgesia prior to or 24-hours after pain assessment, or patients whose pain assessment was over 24-hours after arrival. N = 158

#### Commentary

- Of 13949 patients, 4897 had moderate to severe pain. Of those a total of 749 (15%) received analgesia within 30 minutes of arrival.
  - This low percentage is naturally a cause for concern however we believe that the real result is higher due to the way sites input answer to the questions around analgesia and know the proportion of patient's who receive oral, IV and FIB analgesics is overall much higher. Due to the platform's limitations not all information around the various types of analgesia was captured to provide a more accurate insight into metric. As a response to this we have updated the development process for each QIP to have a more robust initial design phase, additional quality assurance phase and have extended piloting duration to provide more time to detect issues such as this prior to launch.
- For individual units, the charts may show improving, worsening or static results. The mean of 15% is the national benchmark upon which individual units can compare themselves.
- This low percentage is naturally a cause for concern however we believe that the real result is higher due to the way sites input answer to the questions around analgesia and know the proportion of the patient's who receive oral, IV and FIB analgesics is overall much higher.
- Due to the platform's limitations not all information around the various types of analgesia was captured to
  provide a more accurate insight into metric. As a response to this we have updated the development
  process for each QIP to have a more robust initial design phase, additional quality assurance phase and
  have extended piloting duration to provide more time to detect issues such as this prior to launch

- 627 cases failed to meet the standard because the time of the pain assessment and/or time of analgesia administration were not provided.
- 236 cases failed to meet the standard because no information about the analgesia was recorded.
- Improving time to analgesia is a multi-stepped process that often requires more than one individual
  resulting in several opportunities for delay (or improvement). Triage and supporting staff are under
  considerable pressures, especially during peak demand. Changing the culture around the urgency of
  pain management is an ongoing challenge for Emergency Departments across the full spectrum of
  painful presentations.

- Use quality improvement methodology to do a project to improve results. For example, use process
  mapping to identify the whole process and look for areas where the process could be improved. Use this
  standard, 'analgesia within 30 minutes', as an outcome measure to improve the care of patients. Process
  measures could be time to triage and time to pain score from arrival. Use a staff survey as a balancing
  measure to see how it impacts upon their role and obtain frontline ideas on how to improve.
- Examples of change ideas:
  - Raise awareness and increase training of all groups around the importance of prompt pain management.
  - o Consider the use of Patient Group Directions at triage for simple analgesia
  - Bring frequently used drugs closer to the triage area to reduce the barriers and perceived and real pressures on time and task management.



#### STANDARD 2:



Type of analgesia administered

#### All cases eligible for standard 2 (n=4650)

#### Exclusions

- Patients who received analgesia prior to or 24-hours after pain assessment, or patients whose pain assessment was over 24-hours after arrival. N = 158
- Patients that had no information recorded for the analgesia administered N=247

#### Commentary

- Fascia Iliaca Block (FIB) was the most reported analgesia administered to 44.3% of patients in the ED according to this data set. 18.9% of patients had been given paracetamol, 17.6% had been given Opiate (oral), 17.5% had been given Opiate (IM or IV) and 1.7% of patients had been given another form of analgesia.
- It has become apparent that this question lacked specificity and flexibility of response as it did not ask about 'initial' analgesia or allow multiple modalities of analgesia to be inputted. This possibly led to underreporting of every modality. Most patients will have received multiple forms of analgesia whilst in the ED but the limitations of the portal would force people to select one. Further analysis noted that there was an increased time to analgesia if a unit had put FIB as the analgesia given. This has probably skewed the results for giving analgesia within 30 minutes unfavourably.

#### Recommendation:

• All patients should have a pain score at triage to guide subsequent analgesia. Consideration should be made about appropriate analgesia for patients at risk of delirium from opiate analgesia.

#### **STANDARD 2:**



#### Fundamental standard

Why analgesia was not administered in the ED



All patients where the record indicates that no analgesia was administered (n=3504)



All patients (moderate and severe pain only) where the record indicates that no analgesia was administered (n=1200)

#### What questions were used for this analysis?

• Q2.3: Was analgesia administered in the ED?

#### Exclusions

 Patients who received analgesia prior to or 24-hours after pain assessment, or patients whose pain assessment was over 24-hours after arrival. N = 158

#### Commentary

- Overall, 75% of patients received some form of analgesia in the ED. For those who didn't, the chart shows that 13% of patients had initial analgesia administered before arriving at hospital. 2.5% of patients did not have any pain or had experienced mild pain while 1.8% of patients did not accept analgesia. In 0.4% of cases, the analgesia was contraindicated while in 0.7% of cases, another reason for not administering the analgesia was recorded. In 6.4% of cases, the reason for not administering the analgesia was not recorded at all.
- Many patients with a neck of femur fracture may be fairly settled or comfortable at rest once on a hospital bed or trolley. Many are also cognitively impaired. This may create a false sense of reassurance for patient and practitioners alike that pain is well controlled. Patients will however require rolls, transfers and assistance toileting that will often result in movement of the fracture and escalation in pain. Use of a behavioural pain-scoring tool is essential for this group of patients.
- Granular detail of why analgesia was not given is not captured in this dataset. Analgesia can be provided by multiple routes and multiple forms. When struggling to provide analgesia due to barriers e.g. allergies or concerns for bleeding risk when using NSAIDs other approaches or analgesics should be considered.
- For those in moderate or severe pain, two-thirds were recorded as not having initial analgesia due to its administration prior to attendance. This would suggest the analgesia offered has been ineffective and further steps need to be taken to provide effective treatment of pain.

- All patients should be given the choice of analgesia and have this documented in the notes.
- Additional training of clinicians around the management of acute pain
- If a patient is pain free, only has mild pain or declines analgesia at triage this should be reviewed before sending the patient to x-ray as this involves transfers and movement of the injured hip, which will only increase the pain. Informing the patient about potential for increase in pain can enhance shared decision making with the patient.
- Providing a fascia iliaca block once the diagnosis of FNOF is confirmed provides good analgesic cover in the ED for routine care such as rolls and toileting. Unless there is little to no pain on movement of the limb, and no contraindications, this intervention should be performed even in those comfortable at rest.

#### **Fundamental standard** STANDARD 2:

#### Was analgesia for patients in moderate or severe pain administered in accordance with local guidelines?

All patients in moderate or severe pain that answered 'Yes' to Q2.6 (3856) recorded as meeting the standard from a total of 4650 eligible cases



#### Commentary

Analgesia was reported as given partly or totally within guidelines in 83% cases. In 8% cases it was
recorded that there were no local guidelines.

- Ensure the local analgesia guidelines or national guidelines are easily accessible, up to date and followed. Create systems that reduce barriers to providing analgesia in accordance with these guidelines. For example, improving access to PGDs at triage and creating fascia iliaca block packs, that are well stocked and always available.
- Ensure that there are a wide number of practitioners who are able to perform a FIB to facilitate early insertion. Consider how to ensure that there is a practitioner on each shift who is able and competent to administer a block.
- Increase the training of staff to provide fascia iliaca block independently

## **Developmental standard STANDARD 3:** Patients should have an X-ray at the earliest opportunity (within 90 minutes)



# Patients that had an x-ray within 90 minutes from arrival

#### Commentary

The above chart shows that a mean of 56% of patients attending an ED with a suspected FNOF received an x-ray within 90 minutes. Performance against this standard remained consistent through the QIP data collection period with normal variation occurring. This indicates a stable system. In order to improve performance, the system would need to be changed. Each department's SPC charts will give a different picture of their system.

- Individual departments to analyse their data and use QI methodology to help make changes to their processes to reduce the time to x-ray and diagnosis of FNOF.
- Designing, implementing and training around a comprehensive FNOF pathway that engages all stakeholders is required to improve this process measure and ultimately the outcome measure (expedient analgesia).
  - Triage Nurses Recognition of likely FNOF and escalation for X-ray or training to request 0 themselves
  - Doctors being receptive to requests for urgent X-ray and/or rapidly accessing promptly themselves.
  - Radiographers To prioritise this group over less urgent imaging
  - Porters For quick transfer to investigation 0

# **Developmental standard** STANDARD 3:

#### Time from arrival to X-ray

All records where an X-ray was completed whilst the patient was in the ED (n=13076)



#### Commentary

- The mean line reflects that the time from the patient arriving into the emergency department to completing an x-ray is 103 minutes. Slightly over the target mark of 90 minutes. There has been no improvement in time to X-ray over the course of this QIP.
- The standard recommends that patients attending an ED with suspected #NOF should receive an X-ray within 90 minutes of arriving at the setting.



## Time (hours) to X-ray from arrival

- This data represents the efficiency of a departments fast tack to x-ray service. If times are prolonged then this could be the focus of a QI project.
- The histogram above shows that many patients are receiving an X-ray promptly aiding diagnosis and onward analgesia via fascia iliaca block. Departments should consider doing a deeper dive into patients that have particular delays to imagining to inspire interventions that may help tighten performance and provide a more consistent and equitable service.
- 11.48% of patients appear to take over 3 hours to receive an X-ray. Some of those delays will be due to
  failure to recognise, escalate and/or promptly action investigations for a suspected FNOF at triage by
  nursing staff, ambulance crews or rapidly assessment clinicians All steps that can be targeted to
  improve performance. Some FNOF may present atypically and be delayed even with the best of training
  or have competing clinical needs such as sepsis that require prioritisation first. Improving detection of
  possible fractured neck of femures at triage through training and awareness may help capture more of this
  population.

- Departments should improve the pathway between suspicion and confirmation of a fractured neck of femur by looking at triage, X-ray requesting and time to imaging. This may be achieved by training and enabling triage staff to request imaging themselves if presenting typically and encouraging radiology to prioritise this high yield investigation.
- ED's should aim to use QI methodology to understand their fast-track NOF fracture pathway.
- Suggested measures:
  - Outcome time to x-ray
    - This measure is patient focused as the sooner a FNOF is diagnosed the sooner a more definitive analgesia can be given
    - Process time to triage, time to x-ray request, time porter took patient to x-ray
    - Balancing survey of porters / triage nurses / x-ray requesters

# Developmental standard



#### Time from X-ray to Fascia Iliaca Block (FIB)



All patients that were administered Fascia Illicia Block following X-Ray (n=3370)

#### Commentary

- The chart reflects that the mean time between patients undergoing an x-ray to receiving the analgesic, Fascia Iliaca Block, is 86 minutes. Combined with a mean time to x-ray of 103 minutes the mean time to definitive analgesia is 189 minutes – 3 hours and 9 minutes. There was a decline in performance during the winter and second surge of covid19 as evidenced by the early trend of increasing time. Performance has improved since then but not significantly.
- There is a significant delay between imaging, interpretation and then intervention. There is scope to reduce this and improve the timeliness of definitive ED analgesic care in this patient group.

#### **Recommendation:**

- Use QI methodology to identify and implement ideas to reduce the time from x-ray to interpretation and then to administering the FIB to ensure timely administration of definitive long lasting pain relief. Some examples that may work in your department
  - o Increase the number of clinicians competent to deliver FIB through training
  - Ensure all the required elements to perform FIB are easily accessible and known to the team, including the local anaesthetic, sterile equipment and ultrasound machines.
  - Creation of FIB packs may be one way of reducing the steps required to deliver this intervention but would require training a person such as a housekeeper.

#### Cases excluded from this analysis:

 Cases where the time to x-ray from arrival is < 15 min and, >24 hr (Total records removed = 162)

- Cases where the X-Ray time to the Fascia Illicia Block time is >= 24h (Total records removed = 19)
- Cases where the Fascia Illicia Block time is before the X-Ray time (Total records removed = 199)

Cases with Incomplete Data:

- Cases where the X-Ray time is earlier than the time of arrival but, the option 'No Done before arrival' was not selected
- (Total records removed = 2)
- Cases where the Fascia Illicia Block time was not provided (Total records removed = 809)

## **Developmental standard** STANDARD 4:

Patients with severe or moderate pain should have documented evidence of re-evaluation and action within 30 minutes of receiving the first dose of analgesic.



#### All patients (n=4963) - 176 confirming to the standard

#### Understanding this SPC chart – See appendix

#### Commentary

- Patients receiving analgesia pre-hospital or not receiving their initial analgesia in the department for other reasons will not have been included in this analysis.
- If patients were transferred early to a ward then they may not have had pain reassessed.
- Patient may have pain reassessed but documentation of it may be lacking For example the clinician or nurse looking after the person asks them if they are feeling better but doesn't record the response in the notes.
- A complete analysis calculation could not be performed as there was missing date in some data entry fields.

- All patients should have their pain re-assessed and severity scored to guide further appropriate analgesic intervention.
- Use <u>QI tools</u> to better understand your system and identify the areas where change are needed.
- Highly performing ED's are asked to share their practice to allow learning within the EM community.

# Organisational data



Q1: Is there a lead for hip fracture management in the ED?

Number of responses: Yes = 58, No = 21, Unknown = 4.

#### Commentary

 70% of responding departments have a lead for hip fracture management within the emergency department. This is an improvement from the last audit, which showed 51% had a lead. For those departments without a lead this should be addressed. Having a lead and some champions will help to promote improvement work

#### Recommendation

 All departments should have a hip fracture lead and work collaboratively with other teams involved in patient care.





Number of responses: Yes = 74, No = 8, Unknown = 1

#### Commentary

89% of responding departments do have a written protocol / pathway for hip fracture management. For those departments without a pathway, it is advised that one should be developed as a priority to improve the care of the patient.

Q2a: Does this include information on when to perform an MRI or CT scan if the x-ray appears normal?



Number of responses: Yes = 41, No = 25, Unknown = 6

#### Commentary

Over half of responding departments include information on when to perform an MRI or CT scan if the x-ray appears normal. There needs to be a local agreement between the Orthopaedic team and the ED team as to whom this responsibility belongs to. It will vary in different contexts.





Number of responses: Yes = 53, No = 14, Unknown = 5

#### Commentary

74% of responding departments include a fast-track service for x-ray. A fast-track pathway is highly recommended to allow early diagnosis of a fracture and early definitive analgesia.



# Q2c: Do you use a pain tool appropriate for a patient with impaired cognition e.g. Abbey Pain scoring?

Number of responses: Yes = 32, No = 34, Unknown = 6

#### Commentary

While 45% of responding departments use a pain tool appropriate for a patient with impaired cognition, 47% do not. This is surprising given the existence of well-recognised tools like Abbey Pain Scoring. We wonder if this is perceived as a task more aligned with nursing duties and departments do use the tool but it hasn't been appreciated by medical staff. Regardless, it warrants review of departmental pain scoring policy and should act as a reminder of the strengths of a multi-professional QI team. It is strongly advised to use a behavioural pain-scoring tool for those patients who are cognitively impaired to prevent inequality of care.





Number of responses: Yes = 24, No = 41, Unknown = 7

#### Commentary

In over 50% of responding departments, written information about hip fracture has not been made available for patients and/or their relatives or carers. To rationalise resources, departments are encouraged to develop written information in conjunction with the orthopaedic team for use in both areas.

# Q4: Is there the necessary equipment / trained staff to perform a nerve block in the ED?



Number of responses: Yes = 83, No = 1

#### Commentary

99% of responding departments have indicated that the necessary equipment / trained staff is available to perform a nerve block in the emergency department. A training programme and evidence of competence to perform the procedure should be available. Improvement on 93%. It is also advisable to use a Local Safety Standard for Invasive Procedures (LocSSIPs) form as it is an invasive procedure. As a next step, the EM community should consider whether the trained staff provide cover 24/7 to allow equitable access to gold standard analgesia for this patient group. If this is not the case then we would recommend review of how EM, Orthopaedics and Anaesthesia can work together to ensure 24/7 availability of FIB.



Number of responses: Yes = 71, No = 9, Unknown = 3

#### Commentary

85% of responding departments have indicated that they have a guideline available for the use of nerve block including monitoring post procedure. It is imperative that there is a guideline available. The <u>RCEM</u> safety flash on Fascia Iliaca Block was published in 2018.



Q6: Is there a training programme for insertion of nerve blocks?

Number of responses: Yes = 44, No = 34, Unknown = 5

#### Commentary

Over half of responding departments have indicated that they have a training programme for the insertion of nerve blocks. However, 41% do not have this. It is highly recommended that a training programme be developed.



Q7: Is there a protocol for reversing anticoagulation?

Number of responses: Yes = 60, No = 18, Unknown = 5

#### Commentary

72% of responding departments indicated that they have a protocol for reversing anticoagulation. It is recommended that the protocol should be added to the patients' pathway. Delays in reversing anticoagulation can lead to delays in the patient being able to go to theatre.

### Discussion

#### Summary

This QIP has accumulated **13949** individual cases from **159** EDs nationwide. Of the main standards addressed nationally, the results show:

- 49% of patients had their pain immediately assessed on arrival at hospital within 15 minutes and nationally there was a significant improvement in performance towards the end of the project
- Only 15% of patients had received appropriate analgesia for their pain within 30 minutes, but the questions relating to this standard lacked specificity and flexibility of response on the portal that skewed the results.
- 56% patients had an x-ray within 90 minutes of arrival and the mean time was 103 minutes with no significant change over the course of the project.
- It was concerning to see that only 3% of patients had received documented evidence of pain re-evaluation. However, this does not mean pain was not successfully addressed, just that we cannot evidence it with current levels of documentation in this area.

Individual departments will have varying results that they will need to analyse and benchmark against national results. The emphasis remains on improvement locally. Some areas may well be high performing and therefore it may be prudent to expend resources on other areas of care. Departments performing above the national mean are encouraged to submit case studies to RCEM to share good practice. For departments performing below the national picture priority should be given to improvement work for this condition.

The need to include nurses, trainees, medical directors, clinical leads and colleagues in improvement work is more important than ever to ensure the ED is always the safest place for patients.

RCEM would like to extend thanks to all the individuals and EDs who participated in this QIP.

By participating, you have made the first step to making sustainable changes in care – and a lot of you have made many more steps depending on how extensively you made use of QI tools available.

The results of this QI project should be shared widely with staff who have a responsibility for looking after patients with fractured neck of femur problems, especially the doctors and nurses directly involved in care provision. In addition to the clinical team, RCEM recommend sharing the report with the quality improvement department, departmental governance meeting, ED Clinical Lead, Head of Nursing and Medical Director as a minimum. Without having visibility of the data and recommendations, we cannot expect to see improvements in practice.

Now that EDs have a 6-month picture of their weekly performance on key measures RCEM encourages clinical teams and quality improvement departments to work together to review the effectiveness of PDSA cycles already completed, and design further cycles to improve performance which the data shows are required. Engaging staff in the process of action planning and PDSA cycles will lead to more effective implementation and sustainable improvements. The RCEM portal will remain live so that departments can continue to track their performance and evaluate the effects of further PDSA cycles.

For further QI advice and resources, please visit the <u>RCEM Quality Improvement webpage</u>

#### Limitations

#### Patient notes excluded

For the purposes of this QIP, the following patient populations were excluded:

- Any patients 17 years of age or under
- Any patients who have multiple injuries or have other conditions which need immediate resuscitations

- Any patients with suspected occult neck of femur fractures requiring further imaging
- Any patients with a suspected but not diagnosed fractured neck of femur

There is no RCEM control over the quality of the interventions as they are locally owned.

#### Data excluded post-validation

The data used to create the charts in this report contains only the cases that have been submitted within the data entry period. The records submitted were also validated to ensure poor quality data was excluded to prevent distortion of the means and charts. Some of the cases submitted during the data collection period have been removed due to incomplete information and data entry errors that were not identified by the data entry system.

#### Conclusions

RCEM now has a picture of national and local level performance, which is showing early signs of improvement in assessment of pain within 15 minutes because of the use of QIP methodology and encouraging staff of all levels to take part in improving care. There is still improvement to be made, but that is the nature of ever-changing healthcare processes.

#### **Recommendations – patient level**

- Pain tool and training for those with cognitive impairment
- Improving time to initial analgesia
- Improving time to X-ray
- Improving time to diagnosis
- Improving time to FIB
- Written information to all patients/relatives

#### Recommendations – organisational level

 Recommendation – Organisation data 1 and 2.
 All departments should have a hip fracture lead and an up-to-date pathway linking Emergency care with the surgical enhanced recovery pathway of the orthopaedic and anaesthetic departments – Rationale (high mortality and frequent presentation)

#### Recommendations – national level

 Align hip fracture standards with the <u>Scottish Hip Fracture Audit</u> and the <u>National Hip Fracture Database</u>

# Recommendations – Changes to improve the RCEM's national programme

- Increasing the length of programme development and quality assurance prior to platform build
- Improved piloting methodology and platform testing prior to the launch of the programme.
- Early review of data after launch and updates to the survey and platform
- Build into the platform stronger protections against the entry of data that is likely inaccurate e.g. due to typos or misunderstanding of the question.
- Develop a national network to promote best practice sharing during the QIP cycle.

#### **Further Information**

Thank you for taking part in this QIP. We hope that you find the process of participating and results helpful.

If you have any queries about the report, please e-mail <u>quality@rcem.ac.uk</u>.

Details of the RCEM clinical audit and national QIP Programme can be found under the <u>Current QIPs section</u> of the <u>RCEM website</u>.

#### Feedback

We would like to know your views about this report and participating in this QIP. Please let us know what you think by completing our feedback survey: <u>https://www.surveymonkey.co.uk/r/QIP\_202021</u>

We will use your comments to help us improve our future topics and reports.

#### **Useful Resources**

- Site-specific report available to download from the <u>QIP portal</u> (registered users only.
- Online dashboard charts available from the <u>QIP portal</u> (registered users only). The dashboard remains open after the end of the national QIP project so you can keep monitoring local performance and doing PDSA cycles.
- Local data file available from the <u>QIP portal</u> (registered users only).
- Guidance on understanding SPC charts
- <u>RCEM Quality Improvement Guide</u> guidance on PDSA cycles and other quality improvement methods
- Further information on Fractured Neck of Femur is available from RCEM Learning here

#### Report authors and contributors

This report is produced by the <u>Quality Assurance and Improvement Committee</u> subgroup of the <u>Quality in</u> <u>Emergency Care Committee</u>, for the <u>Royal College of Emergency Medicine</u>.

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# Appendices

#### Appendix 1: Case study

Case study for Fracture Neck of Femur Quality Improvement Project

A trauma unit in the North East of England took part in the Fracture Neck of Femur Quality Improvement Project 2020-21. In October 2020 at the start of the project a small team was brought together including a consultant supervisor, CT3 (project lead), an ED clinical fellow, an F2 doctor and a staff nurse. The consultant who was involved in the patients' electronic record development and the developer of the templates also contributed. Over the first 2 months of the project, a process map was completed and the initial 2 months data was viewed as baseline data.



Several areas were highlighted as areas where bottlenecks could be:

- 1. Recognition of patients who possibly had FNOF early in the pathway
- 2. Ensuring a patient goes into a room as soon as possible to be triaged which would include a pain score and initial analgesia
- 3. Fast tracking to x-ray, which was contingent upon availability of a porter
- Early review of x-ray by doctor or practitioner so fascia iliaca block could be inserted as soon as diagnosis was made.

The measures used to look at performance were the standards that RCEM had set and they were monitored using the SPC charts on the Net solving platform.

Standard 1 Percentage of patients who have had pain assessed within 15 minutes of arrival at hospital Standard 2 Percentage of patients with moderate to severe pain receiving analgesia within 30 minutes Standard 3 Percentage of patients who have an x-ray within 90 minutes

From the first 2 months data it was apparent that only a mean of 38% patients with a fracture neck of femur were getting their pain assessed within 15 minutes. This was below the national mean of 46%. 62% patient in moderate to severe pain received analgesia within 30 minutes, which was above the national mean of 15%, and the percentage of patients getting an x-ray within 90 minutes was 74% versus 56% nationally. One of the main ideas to improve this was rather ambitious. A new template for a hip injury assessment was to be developed and built to include detailed documentation of triage, medical assessment, pain scoring and reassessment, insertion of FIB's, frailty assessment and a fracture neck of femur checklist to encompass the whole of the patients journey.

Also during September to October 2020 the ED underwent significant internal structural changes as part of the response to covid. All patients were going to be allocated to a single room on arrival, which could potentially improve time to triage and early recognition of possible NOF to trigger the fast track pathway.

The project lead, supervising consultant, Trakcare consultant and nurse all contributed to the development of the hip injury assessment template.

Problems were encountered due to the winter surge of covid, the volume of patients, working in a newly configured department and a halt to the development of the Trakcare template by the EPR team.

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ED Triage No Obs	
Hip Injury Initial Assessment – Nurse	
Pain Assessment	
Pain Reassessment	
Patient Assessment and Treatment	
Hip Injury Initial Assessment - Medical	
Review note - Hip Injury	
Fascia Iliaca Compartment Block	
ED Diagnoses	
ED Smoking and Alcohol assessment	
Delirium Screening	
Delirium Guidelines	
Step 1 - 4AT Score	
Step 2 - AMT Score	
Steps 3 and 4 - PINCH ME / Communication	
Safeguarding	
Safequarding Assessment	

However, the team persisted with the project and highlighted points in nursing huddles, doctor's board rounds and informal and formal teaching.

#### Appendix 2: Ethnicity Data (standard specific)

Please note that the sample size is defined by record eligibility.

#### Standard 1 -

Pain is assessed immediately upon presentation at hospital (Fundamental)

Population	Sample Size	Conforming to standard (% of specific population)	Not conforming to standard (% of specific population)
White British	10094	4916 (48.7%)	5178 (51.3%)
Not stated e.g. unwilling to state	2557	1171 (45.8%)	1386 (54.2%)
Any other White background	303	150 (49.5%)	153 (50.5%)
White Irish	138	67 (48.6%)	71 (51.4%)
Any other ethnic group	131	68 (51.9%)	63 (48.1%)
Indian	78	28 (35.9%)	50 (64.1%)
Any other Asian background	52	14 (26.9%)	38 (73.1%)
Pakistani	31	16 (51.6%)	15 (48.4%)
Any other mixed background	17	10 (58.8%)	7 (41.2%)
White and Black Caribbean	15	9 (60%)	6 (40%)
Any other Black background	12	7 (58.3%)	5 (41.7%)
Caribbean	12	5 (41.7%)	7 (58.3%)
African	11	6 (54.5%)	5 (45.5%)
Bangladeshi	10	6 (60%)	4 (40%)
White and Asian	10	7 (70%)	3 (30%)
Chinese	10	6 (60%)	4 (40%)
White and Black African	3	2 (66.7%)	1 (33.3%)

#### Standard 2 -

Patients in moderate or severe pain (e.g. pain score 4 to 10) should receive appropriate analgesia within 30 minutes (or in accordance with local guidelines) unless there is a documented reason not to (Fundamental)

Population	Sample Size	Conforming to standard (% of specific population)	Not conforming to standard (% of specific population)
White British	3553	572 (16%)	2981 (84%)
Not stated e.g. unwilling to state	1023	126 (12%)	897 (88%)
Any other White background	113	25 (22%)	88 (78%)
White Irish	59	9 (15%)	50 (85%)
Any other ethnic group	53	4 (8%)	49 (92%)
Indian	29	5 (17%)	24 (83%)
Pakistani	13	1 (8%)	12 (92%)
Any other Asian background	11	0 (0%)	11 (100%)
Any other mixed background	7	2 (29%)	5 (71%)
African	6	1 (17%)	5 (83%)
Any other Black background	6	0 (0%)	6 (100%)
Caribbean	6	1 (17%)	5 (83%)
White and Black Caribbean	6	1 (17%)	5 (83%)
White and Asian	4	1 (25%)	3 (75%)
Bangladeshi	3	0 (0%)	3 (100%)
Chinese	3	0 (0%)	3 (100%)
White and Black African	2	1 (50%)	1 (50%)

#### Standard 3 -

#### Patients should have an X-ray at the earliest opportunity (Desirable)

Population	Sample Size	Conforming to standard (% of specific population)	Not conforming to standard (% of specific population)
White British	9980	5574 (55.9%)	4406 (44.1%)
Not stated e.g. unwilling to state	2559	1371 (53.6%)	1188 (46.4%)
Any other White background	298	184 (61.7%)	114 (38.3%)
White Irish	137	78 (56.9%)	59 (43.1%)
Any other ethnic group	130	69 (53.1%)	61 (46.9%)
Indian	75	38 (50.7%)	37 (49.3%)
Any other Asian background	50	21 (42%)	29 (58%)
Pakistani	32	15 (46.9%)	17 (53.1%)
Any other mixed background	18	10 (55.6%)	8 (44.4%)
White and Black Caribbean	15	7 (46.7%)	8 (53.3%)
Caribbean	13	4 (30.8%)	9 (69.2%)
African	11	5 (45.5%)	6 (54.5%)
Any other Black background	11	3 (27.3%)	8 (72.7%)
Bangladeshi	10	5 (50%)	5 (50%)
White and Asian	10	4 (40%)	6 (60%)
Chinese	10	6 (60%)	4 (40%)
White and Black African	3	2 (66.7%)	1 (33.3%)

# **Standard 4**

# Patients with severe or moderate pain should have documented evidence of re-evaluation and action within 30 minutes of receiving the first dose of analgesic (Desirable)

Population	Sample Size	Conforming to standard (% of specific population)	Not conforming to standard (% of specific population)
White British	3599	142 (3.9%)	3457 (96.1%)
Not stated e.g. unwilling to state	1048	26 (2.5%)	1022 (97.5%)
Any other White background	112	3 (2.7%)	109 (97.3%)
Caribbean	59	1 (1.7%)	58 (98.3%)
White Irish	50	2 (4%)	48 (96%)
Indian	32	1 (3.1%)	31 (96.9%)
Any other Asian background	11	0 (0%)	11 (100%)
Any other ethnic group	10	0 (0%)	10 (100%)
Pakistani	7	0 (0%)	7 (100%)
African	7	0 (0%)	7 (100%)
Bangladeshi	7	0 (0%)	7 (100%)
Any other Black background	6	1 (16.7%)	5 (83.3%)
Any other mixed background	4	0 (0%)	4 (100%)
White and Asian	4	0 (0%)	4 (100%)
Chinese	3	0 (0%)	3 (100%)
White and Black African	3	0 (0%)	3 (100%)
White and Black Caribbean	1	0 (0%)	1 (100%)

#### **Appendix 3: Participating Emergency Department**

#### **England**

Addenbrooke's Hospital Airedale General Hospital Alexandra Hospital Arrowe Park Hospital **Barnet Hospital Barnsley Hospital Basildon University Hospital** Basingstoke and North Hampshire Hospital **Bedford Hospital** Blackpool Victoria Hospital Bradford Royal Infirmary Bristol Royal Infirmary **Broomfield Hospital** Calderdale Royal Hospital Chelsea & Westminster Hospital **Chesterfield Royal Hospital** City Hospital, Birmingham **Colchester General Hospital Conquest Hospital Countess of Chester Hospital** Croydon University Hospital Cumberland Infirmary Darent Valley Hospital Darlington Memorial Hospital **Derriford Hospital** Diana, Princess of Wales Hospital **Doncaster Royal Infirmary Dorset County Hospital** Ealing Hospital East Surrey Hospital Eastbourne District General Hospital Fairfield General Hospital Frimley Park Hospital Furness General Hospital George Eliot Hospital **Gloucestershire Royal Hospital** Good Hope Hospital Great Western Hospital Harrogate District Hospital Heartlands Hospital Hillingdon Hospital Hinchingbrooke Hospital Homerton University Hospital Huddersfield Royal Infirmary Hull Royal Infirmary **Ipswich Hospital** James Cook University Hospital James Paget University Hospital Kettering General Hospital King's College Hospital (Denmark Hill) King's Mill Hospital Kingston Hospital Leicester Royal Infirmary Leighton Hospital Lincoln County Hospital Lister Hospital

Luton and Dunstable University Hospital Manchester Royal Infirmary Medway Maritime Hospital Milton Keynes University Hospital Musgrove Park Hospital Newham University Hospital Norfolk and Norwich University Hospital North Devon District Hospital North Manchester General Hospital North Middlesex University Hospital Northampton General Hospital (Acute) Northern General Hospital Northumbria Specialist Emergency Care Hospital Northwick Park Hospital Peterborough City Hospital Pilgrim Hospital Pinderfields General Hospital Poole General Hospital Princess Alexandra Hospital Princess Royal University Hospital (Kent) Queen Alexandra Hospital Queen Elizabeth Hospital (Birmingham) Queen Elizabeth Hospital (Gateshead) Queen Elizabeth Hospital (Lewisham and Greenwich) Queen Elizabeth The Queen Mother Hospital Queen's Hospital (Burton) Queen's Hospital (Romford) Queens Medical Centre (QMC) Rotherham District General Hospital Royal Berkshire Hospital Royal Blackburn Teaching Hospital Royal Bolton Hospital Royal Bournemouth Hospital Royal Cornwall Hospital (Treliske) Royal Derby Hospital Royal Devon and Exeter Hospital (Wonford) Royal Preston Hospital Royal Shrewsbury Hospital Royal Stoke University Hospital Royal Surrey County Hospital Royal United Hospital Royal Victoria Infirmary Russells Hall Hospital Salford Royal Salisbury District Hospital Sandwell General Hospital Scarborough General Hospital Scunthorpe General Hospital South Tyneside District Hospital Southampton General Hospital

Southmead Hospital AWP Southport General Infirmary St George's Hospital (Tooting) St Helier Hospital St Mary's Hospital HQ St Peter's Hospital St Richard's Hospital St Thomas' Hospital Stepping Hill Hospital Sunderland Royal Hospital Tameside General Hospital The County Hospital (Wye Valley) The Princess Royal Hospital (Shrewsbury) The Queen Elizabeth Hospital, King's Lynn The Royal Free Hospital The Royal London Hospital The Royal Oldham Hospital Torbay Hospital University Hospital Aintree University Hospital, Coventry University Hospital, Lewisham University Hospital of North Durham University Hospital of North Tees Walsall Manor Hospital Warrington Hospital Warwick Hospital Watford General Hospital West Cumberland Hospital West Middlesex University Hospital West Suffolk Hospital Weston General Hospital Wexham Park Hospital Whipps Cross University Hospital Whiston Hospital Whittington Hospital William Harvey Hospital (Ashford) Worcestershire Royal Hospital Worthing Hospital Wythenshawe Hospital York Hospital Northern Ireland Antrim Area Hospital Craigavon Area Hospital Daisy Hill Hospital Royal Victoria Hospital Scotland Dumfries and Galloway Royal Infirmarv University Hospital Wishaw

#### <u>Wales</u>

Morriston Hospital Princess of Wales Hospital The Royal Glamorgan Hospital University Hospital of Wales Wrexham Maelor Hospital Ysbyty Gwynedd Crown Dependency

Noble's Hospital

#### Appendix 4: Understanding your results

#### Statistical process control (SPC) charts

The charts in this report and your new online dashboard can tell you a lot about how your ED is performing over time and compared to other EDs. If you're not used to seeing data in this way it can take a little time to get used interpreting it. This section of the report will help you understand the charts and interpret your own data.

The main type of chart is known as a **Statistical Process Control (SPC) chart** and plots your data every week so you can see whether you are improving, if the situation is deteriorating, whether your system is likely to be capable to meet the standard, and whether the process is reliable or variable.

As well as seeing your actual data plotted each week you will see a black dotted average line, this is the **mean** percentage of patients. The SPC chart will point out if your data has a run of points above (or below) the mean by changing the dots to white. If your data is consistently improving (or deteriorating), the dots will turn red so the trend is easy to spot. If a positive run or trend of data happens when you are trying a PDSA/change intervention this is a good sign that the intervention is working.

As well as the dotted mean line, you will see two other lines that are known as the **upper and lower control limits**. The control limits are automatically determined by how variable the data is. Around 99% of all the data will fall between the upper and lower control limits, so if a data point is outside these lines you should investigate why this has happened.

#### Interpreting your data

#### 1. Performance is improving (or deteriorating)

A consistent run of data points going up or down with be highlighted with **red dots**, so they are easy to spot. A run of data going up is a good sign that your service is making improvements that are really working. If the data is going down this, may indicate that service is deteriorating for some reason – watch out for a lack of resources or deterioration because of a change somewhere else in the system.



#### 2. Performance is consistently above (or below) the mean

A consistent run of data that is above or below the mean will be highlighted with **blue dots** so they are easy to spot. If your data has been quite variable, this is a good sign that the process is becoming more reliable.



#### 3. Is your system likely to be capable of meeting the standard?

The **control limits** show where you can assume 99% of your data will be. If you find that the standard is outside your control limits, it is very unlikely that your system is set up to allow you to meet the standard. If you do achieve the standard, this will be an unusual occurrence and very unlikely to be sustained. If this is the case, it is recommended that you look at how the process can be redesigned to allow you to meet the standard.

In the below example, the process is performing consistently at around 50%. The control limits show us that most of the time we would expect the process to be between 33% - 62%. If the standard for this process was 50%, then the process is well designed. If, however, the standard was 75% then the chart warns us that the system is not currently set up to allow the process to achieve the standard.



#### 4. Something very unusual has happened!

The majority of your data should be inside the upper and lower control limits; these are automatically calculated by the system. If a single data point falls outside these limits, then something very unusual has happened. This will be flagged up with a **red diamond** so you can spot it.

In some cases, it may mean that the data has been entered incorrectly and should be checked for errors. It may also mean that something unexpected has had a huge impact on the service and should be investigated.



Appendix 5: Privacy policy, terms of website use and website acceptable use policy

#### **Privacy policy**

The Royal College of Emergency Medicine (RCEM) recognises the importance of protecting personal information and we are committed to safeguarding members, non-members and staff (known as "The User" in this document) privacy both on-line and off-line. We have instituted policies and security measures intended to ensure that personal information is handled in a safe and responsible manner. This Privacy statement is also published on the RCEM web site so that you can agree to the kind of information that is collected, handled and with whom this data is shared with.

RCEM strive to collect, use and disclose personal information in a manner consistent with UK and European law and under the General Data Protection Regulation (GDPR). This Privacy Policy states the principles that RCEM follows and by accessing or using the RCEM site you agree to the terms of this policy.

For further information, click *here*.

Terms of website use For further information, click <u>here</u>.

Website acceptable use policy For further information, click <u>here</u>.

#### Appendix 6: References

- 1. NICE 2012. Hip fracture in adults Quality standard [QS16]. Available at: https://www.nice.org.uk/guidance/qs16
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- 7. The National Hip Fracture Database 2019. Annual Report. Available at: https://www.nhfd.co.uk/files/2019ReportFiles/NHFD\_2019\_Annual\_Report\_v101.pdf

#### Appendix 7: Template to submit your QI initiatives for publication on the RCEM website

Name: \_\_\_\_\_

If you would like to share details of your QI initiative or PDSA cycle with others, please complete this document and email it to quality@rcem.ac.uk.

Email address:	
Hospital:	
Trust:	
Plan	
State the question you wanted to answer – what was your prediction about what would happen?	
What was your plan to test the change (who, what, when, where)?	
What data did you collect, how did you plan to collect it?	
Do	
How did you carry out the change?	
Did you come across any problems or unexpected observations?	
How did you collect and analyse the data?	
Study	
What did the analysis of your results show?	
How did it compare to your predictions?	
Summarise and reflect on what you learnt.	
Act	
Based on what you learnt, what did you adapt (modify and run in another test), adopt (test the change on a larger scale) or abandon?	

Did you prepare for another PDSA based on you learning?	
Reflection and learning	
What did you and the team learn from this QI initiative? What advice would you give to someone else in your position?	

#### Appendix 8: Pilot sites

A pilot of the QIP was carried out during August 2020. This tested the standards, questions, quality of data collectable, as well as the functioning of the online portal and reporting templates.

Several improvements were made to the final project based on feedback from the pilot sites.

RCEM were grateful to contacts from the following Trusts for helping with the development of the audit and integrated QIP:

Barts Health NHS Trust Countess of Chester Hospital NHS Foundation Trust Frimley Health NHS Foundation Trust Gloucestershire Hospitals NHS Foundation Trust King's College Hospital NHS Foundation Trust Kingston Hospital NHS Foundation Trust Royal Surrey County Hospital NHS Foundation Trust Sandwell and West Birmingham Hospitals NHS Trust Worcestershire Acute Hospitals NHS Trust

