Scottish Hip Fracture Audit Guidelines Definitions April 2021

Audit guidelines and data definitions

Contents

General Guidance

Audit Group

All patients who have sustained a hip fracture

Inclusion Criteria

All patients aged 50 years or older who have sustained a hip fracture.

Include all patients admitted to your hospital with a hip fracture regardless of where their journey started e.g. another hospital. If a patient with a hip fracture is subsequently transferred from your hospital to another hospital for surgery they will be audited by the LAC at the operating hospital. Data should be collected from the time the patient attended the first hospital or when the fall occurred in the first hospital. This information should be available in transfer information/ electronic patient records but it may require local links to be made with colleagues in hospitals transferring patients to your hospital.

Include patients who are admitted directly from the Emergency Department (ED), and also, those transferred directly into **any** ward.

Include patients who are current inpatients in any ward in **any** hospital, who sustain a fall resulting in a hip fracture.

Include patients who attend the ED but die prior to ward admission or treatment.

There is no limit on the age of the fracture, i.e. if the patient originally attended ED but the fracture was missed, these should be discussed with the Central Team on a case-by-case basis.

The audit is based on episodes of injury rather than individual patients. If someone fractures one hip after another, please complete a separate record for each episode. However, if a patient presents with both hips fractured, only complete one record and use the information from the first hip repair surgery.

Include patients who have sustained a hip fracture but are treated conservatively. Some of these patients may not be transferred to Orthopaedics and therefore may be challenging to identify, but the Local Audit Coordinators should endeavour to include them in the audit where possible. Some patients who are initially treated conservatively may in fact end up having a surgical repair.

For further details, please refer to Appendices at the end of this document.

Exclusion Criteria

Exclude patients who do not have a hip fracture, such as fractures of the shaft of femur (including proximal), acetabulum, peri–prosthetic hip fractures or isolated greater trochanteric fractures. When excluding someone from the audit based on fracture type, please ensure that the diagnosis can be corroborated from several sources, e.g. discussion with orthopaedic surgeon/ clinical team, x-ray reports, clinical notes and operation notes. This helps to ensure that people are excluded based on a robust diagnosis.

Do not include patients who self-discharge from ED prior to admission.

Patient Identification

The Scottish Hip Fracture Audit has approval from the data protection officer at Public Health Scotland to collect limited personal information on the patients included in the audit.

In order to allow validation of data using personal identifiers, each eligible patient will automatically be assigned an audit number in REDCap. This number should be recorded in duplicate on the audit cross-index.

Audit Methodology Record details of every patient eligible for audit on the audit cross-index (see **Appendix B**). It may also be useful to record excluded patients on your cross-index, along with the reason why you have excluded them (e.g. fractures of the shaft of femur (including proximal), acetabulum, peri–prosthetic hip fractures or isolated greater trochanteric fractures).

Complete a record in REDCap for each patient with a hip fracture. If a patient is missed and is lost to audit, their details should still be entered in the crossindex and added to numbers in the monthly completeness spreadsheet. **Patients should only be lost to audit in exceptional circumstances, the LACs should make every effort to access the notes for patients even if their attendance was when the LAC was on leave.**

Some measures require **recording of a date only if completed within a given number of days**, for example:

- Comprehensive Geriatric Assessment (CGA) standard is that assessment should be done within 3 days of admission, however it is useful to know how close to achieving the standard the hospital is therefore this information should be recorded if within 7 days of admission. If >7 days, it is not necessary to collect a date.

- Physiotherapy assessment standard is that assessment should be done within 2 days' post-surgery - however it is useful to know how close to achieving the standard the hospital is therefore this information should be recorded if within 7 days of admission. If >7 days, it is not necessary to collect a date.

- Occupational Therapy assessments - standard is that assessment should be done within 3 days of admission, however it is useful to know how close to achieving the standard the hospital is therefore this information should be recorded if within 7 days of admission. If >7 days, it is not necessary to collect a date.

Date of discharge - give the date of discharge and destination if this is available by the date the data needs to be closed off and completed for monthly analysis (i.e. 21st of the month). If this is not yet available because the patient is still an inpatient, code both variables as 99 (Not recorded)/NR.

Transferred patients – the audit now measures care provided in the **first and operating hospitals.** The majority of the information will usually be collected from the operating hospital, i.e. the hospital where the patient had their hip surgically repaired. If a patient has been transferred from your hospital to another LACs hospital for surgery, it is good practice to alert the LAC in the receiving hospital. **Only one form should be submitted, usually from the operating hospital**.

60 day review

Further details of these patients' stays at home/ care home, or elsewhere in hospital (where, dates, reason), residence on day 60, date of death if within 60days, bone health medication and further fractures should also be completed in REDCap. Patients due for review are identified through the REDCap dashboard; this should be reviewed and managed on a regular basis by the LAC.

Submission process

Validated data for patients admitted in the previous month should be completed in REDCap by the 21st of each month, e.g. patients admitted in August should be marked as complete by the 21st September.

Please ensure validated data are marked as complete on time as late submission can affect the monthly reporting of results.

The data completeness spreadsheet should be submitted via email by the 21st of the month reflecting the data that has been marked as complete on REDCap.

Note that "marked as complete" refers to all data from the acute sections (i.e. Demographics, Transfer ED, Inpatient, Surgery and Discharge) in REDCap having a green RAG status in REDCap's default dashboard.

The 60 day review data should be marked as complete by the end of the month.

Data Definitions: core data

Notes

1. If you are unclear about any aspect of REDCap, data collection or the data definitions please do not hesitate to contact the central audit, who will be happy to help you, by emailing the generic mailbox: **phs.mskaudit@phs.scot**.

2. All data entered on the Scottish Hip Fracture Audit should be from information documented and evident in the patients' records (either paper or electronic). As a general rule, information provided anecdotally or through 'word of mouth' should not be included. An exception to this would be, if for example, the Fracture Liaison Service keep their own records and information about bone health can be gleaned from a discussion with them, this is acceptable but it should be recorded in the comments section on REDCap where this information has come from.

3. The general categories '88 (NA)= Not Applicable' or '99 (NR)= Not Recorded' can both mean slightly different things depending on which information is being collected, and this is further explained under each piece of information below. Though '99 = Not Recorded' may be used in some fields to indicate that the notes were not seen, **this should be avoided where possible. Every effort should be made to view the patient's records** in order to fully complete the audit and provide meaningful data.

4. All dates should be entered using a six-digit format, i.e. YYYY-MM-DD e.g. 2021-05-01.

5. All times should be entered using the 24-hour clock format, i.e. HH:MM e.g. 15:35.

6. If the 9 = Other option is used, please remember to add additional relevant information to the Comments section.

7. After each section you must use the drop down box to mark each form as "Complete" if all relevant data has been collected.

Form Status	
Complete?	Complete ⌄

Number	Field Name	Definition	Variable Required
1	Name	Record the patient's first name and surname	Free text field
2	CHI Number	Record CHI, 10 digits. If you do not have CHI, give date of birth and four zeros.	Enter a 10 digit number (first six digits being the patients date of birth, i.e. DDMMYY)
3	Audit Number	This is automatically assigned in REDCap. The first two numbers are your hospitals unique code in REDCap, and the number after the hyphen is the patient's unique number.	Automatically assigned Example: 55-21
4	Hospital code (of LAC)	Enter the Public Health Scotland code for the hospital where you are based. **List of hospitals/hospital codes**: Aberdeen Royal Infirmary – N101H Ayr Hospital - A210H Borders General Hospital – B120H Dumfries & Galloway Royal Infirmary – Y146H Dr Gray's Hospital, Elgin – N411H Forth Valley Royal Hospital – V217H Glasgow Royal Infirmary – G107H Golden Jubilee National Hospital – D102H Hairmyres Hospital – L302H Inverclyde Royal Hospital – C313H Ninewells Hospital – T101H Perth Royal Infirmary – T202H Queen Elizabeth University Hospital – G405H	Select appropriate code Example: N101H

Number	Field Name	Definition	Variable Required
		Raigmore Hospital – H202H	
		Royal Alexandra Hospital – C418H	
		Royal Infirmary of Edinburgh – S314H	
		Stracathro Hospital – T312H	
		University Hospital Crosshouse – A111H	
		University Hospital Wishaw – L308H	
		Victoria Hospital, Kirkcaldy – F704H	
		Western Isles Hospital – W107H	
		Woodend General Hospital – N102H	
5	Postcode	Document postcode for patient's normal residence – part postcode also accepted if full postcode not available.	Enter up to 8 characters as per examples.
		Use postcode for patient's normal residence if the patient is admitted from a home in which they are temporarily residing such as holiday or respite care.	
		Use the patient's home postcode if they fell in an acute or rehab ward. But if admitted from NHS continuing care use the hospital's postcode.	
		Notes:	
		Use 999X X for postcodes outside UK.	
		Please enter NFA for patients who have 'No Fixed Abode'.	
6	Sex	Enter patient's gender status	Select one of the following: 1 = Male 2 = Female
7	Age	Record age at first presentation. **Note:** NA (Not applicable) and NR (Not recorded) **should not** be used in this field.	Enter up to a 3 digit number

Number	Field Name	Definition	Variable Required
8	Ortho Consultant	Allocate a number code to each consultant and keep the reference to this locally e.g. 1 = Mr Smith, 2 = Mr Brown, 3 = Mr Cameron etc. **Note:** This code should reflect the consultant in charge of the patient's orthopaedic care.	Enter up to a 2 digit number
9	Pre-fracture Residence	Record the current residence of the patient prior to fracture: 1. **Home** = when the patient is living at their usual residence, i.e. permanent address or if they are permanently living with a relative. Also, use this option if the patient has fractured whilst on holiday or working away from home. 2. **Care Home** = this can be a residential or nursing home provided it is the person's permanent home. 3. **NHS Continuing Care** = Care = when the patient has fractured in a ward where the clinical team is no longer attempting to get a patient home. The patient may be awaiting a place in a nursing home or for funding, or may have become a permanent hospital patient, i.e. now in a long-term care bed. Before allocating this code, always check with the nurse in charge of the patient's care to determine the exact reasoning for the patient's placement and document in the Comments section.	Select one of the following, in line with the descriptions opposite: 1 = Home 2 = Care Home 3 = NHS Continuing care 4 = Rehab 5 = Acute Hospital 6 = IC – NHS 7 = IC - non-NHS 9 = Other NR

Number	Field Name	Definition	Variable Required
		Include long-term elderly psychiatry as NHS continuing care.	
		4. **Rehabilitation** = when the patient has fractured in a dedicated rehabilitation ward or a bed in a ward where rehabilitation occurs.	
		5. **Acute Hospital** = when the patient **has fractured in an acute hospital ward**. Include acute psychiatry wards as acute hospital.	
		6. **Intermediate care** = **NHS funded bed**. This code should only be used when the patient is admitted from a NHS funded bed in a care facility.	
		7. **Intermediate care** = **non-NHS funded bed**. This code should only be used when the patient is admitted from a care home or other non-NHS funded facility.	
		8. **Other** = includes non-NHS respite care or hospice, prison, homeless or private hospital care.	
		If using 9 = Other, please add additional information to the Comments box.	
		Notes:	
		Select NR (Not Recorded) if pre-fracture residence is not known or not recorded.	
		People admitted from a Care of the Elderly (COE) ward should be coded according to the type of bed (NHS continuing care, Rehabilitation and Acute (COE)).	

Transfer (Patient Journey)

Note: This section should **only** be completed for patients who have been transferred from another NHS hospital:

Example of patient journeys:

1. Arrival at ED and admission to ward in same hospital (operating hospital)

   ED data – collected from operating hospital.

   IP data – collected from operating hospital.

   E.g., Patient presents at Ninewells Hospital ED and is admitted to ward at Ninewells Hospital.

2. Arrival at ED in first hospital – transfer direct from ED (first hospital) to ED in operating hospital – admitted to ward in operating hospital.

   ED data – combined data collected from first hospital **and** operating hospital.

   IP data – collected from operating hospital.

   E.g., Patient presents at Monklands ED, immediately transferred to Wishaw ED and then admitted to ward at Wishaw

3. Arrival at ED in first hospital - transferred direct from ED in first hospital to ward in operating hospital.

   ED data – collected from first hospital.

   IP data – collected from operating hospital.

   E.g., Patient presents at Caithness General ED and then is transferred and admitted directly to ward at Raigmore Hospital.

4. Arrival at ED in first hospital – admitted to first hospital overnight (or for a specified time) and is then transferred to operating hospital for admission (depending on transfer protocols the patient may be transferred directly to a ward or may have to stop briefly in ED if that is the pathway agreed in specific Board).

ED data – collected from first hospital. (If the patient stops briefly in ED in operating hospital during the transfer process this data **would not** be collected as part of the ED dataset).

IP data – combined data collected from first hospital **and** operating hospital.

E.g., Patient presents at Balfour Hospital and is admitted overnight due to adverse weather conditions. In the morning is transferred and admitted directly to ward at ARI (or via ED to ward at ARI).

5. Inpatient fracture at first hospital – patient who is an inpatient in a hospital other than the operating hospital falls and fractured hip is suspected or confirmed. Transfer is arranged via ambulance either to ED or ward at operating hospital.

ED data – collected from operating hospital – only if the patient was transferred to operating hospital's ED from first hospital.

IP data – combined data collected from first hospital and operating hospital.

E.g., Patient was inpatient in Stonehouse Hospital, fell and hip fracture was suspected. 999 ambulance called and patient transferred to Wishaw General ED (operating hospital). ED would be collected from Wishaw and IP data would be collected from both Stonehouse and Wishaw.

Note: If the patient that you are auditing does not fit into one of the above categories then please contact the central team to discuss whether the Patient Journey section should be completed.

Number	Field name	Definition	Variable Required
10	First Hospital Code	Enter the Public Health Scotland code for the FIRST hospital the patient attended. A list of local options will be made available for most common transfer origins. Please contact the central team for a first hospital code if the patient is transferred from a more unusual first hospital. **Notes:** Use NA (Not applicable) if the patient was not transferred and leave the rest of this section (up to Q17) blank.	Select appropriate code - Example N101H
11	Date/time of arrival at FIRST hospital	Record the date and time that the **patient presented at the FIRST hospital** with a hip fracture. This should be the arrival date/ time or the earliest recorded date/ time within the ED/ MIU (or the ward area if the patient was admitted directly to a ward) or in the case of inpatient falls, the time the fall occurred/ fracture was suspected/ diagnosed. **Notes:** Document additional information in the Comments section. Mark as Not recorded (99) if date or time is unknown/ not recorded. 	Enter date YYYY-MM-DD Example 2021-05-01 Enter time: HH:MM Example: 13:15 Or: Not recorded (99)
12	ED or IP fall?	Record whether the patient first presented at ED/ MIU after their fall, presented as a direct admission to a ward, or if they sustained their fracture after a fall as an inpatient (IP). **Notes:**	Select one of the following: 1 = Presented to ED / MIU 2 = IP fall/#FIRST hosp

Number	Field name	Definition	Variable Required
		Use "Presented to ED/ MIU" for patients who first present at small cottage hospitals or GP led units etc. Use NR (Not recorded) if the notes were not seen.	3 = Direct admission to ward NR
13	Management at FIRST hospital	Record the patient's destination after arrival at the FIRST hospital. **Notes:** Use "Admitted to first hospital" if the patient was admitted there. This might occur for example due to transport difficulties, medical stabilisation or an initial decision to treat the patient conservatively. Only use NR (Not recorded) if the notes were not seen.	Select one of the following codes: 1 = Admitted to first hospital 2 = Direct transfer to operating hospital ED 3 = Direct transfer to ward in operating hospital NR
14	Date/time decision was made to transfer patient	Record the date and time that **a decision was made to transfer** the patient **to another hospital.** This should be the date/ time documented in the notes that this decision was made, e.g. patient to be transferred to operating hospital, contact made with Ortho team in operating hospital, call made to SAS to arrange transfer etc. **Notes:** Document additional information in the Comments section. Mark as Not recorded (99) if date or time is unknown/ not recorded or if the notes were not seen.	Enter date: YYYY-MM-DD Example: 2021-05-01 Enter time: HH:MM Example: 13:15 Or enter: Not recorded (99)

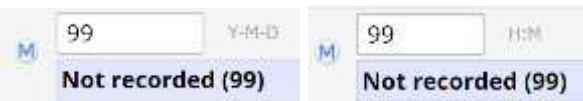| Number	Field name	Definition	Variable Required
15	Date/time patient left FIRST hospital	Record the date/time the patient **left the FIRST hospital for transfer to the operating hospital** for surgery/orthopaedic care. **Notes:** Document additional information in the Comments section. Mark as Not recorded (99) if date or time is unknown/not recorded or if the notes were not seen.	Enter date: YYYY-MM-DD Example: 2021-05-01 Enter time: HH:MM Example: 13:15 Or enter: Not recorded (99)
16	Date/time of arrival at OPERATING hospital	**Record the date and time the patient arrived at the OPERATING hospital** following transfer. This should be the arrival date/ time or the earliest recorded date/ time within the ED or the ward area if the patient was admitted directly to a ward. **Notes:** Document additional information in the Comments section. Mark as Not recorded (99) if date or time is unknown/ not recorded or if the notes were not seen.	Enter date: YYYY-MM-DD Example: 2021-05-01 Enter time: HH:MM Example: 13:15 Or enter: Not recorded (99)

Emergency Department (ED)

Note: The ED information in this section should be taken from the ED attendance at the first **or** operating hospital depending on the pathway taken. For example:

1. If the patient **first presented to ED at your hospital**, record if the Big Six was delivered in ED at **your hospital**.

2. If the patient was **transferred from another hospital ED directly to the ED in your hospital for further care, record if the Big Six was delivered at either ED**. (**Note**: The Big Six can be delivered in either first hospital or operating hospital ED).

3. If a patient was **transferred directly into a ward at your site from another hospital** record if the Big Six was delivered **prior to transfer only**, e.g. in ED of the first hospital. (**Note**: as part of the agreed local pathway, the patient may be admitted via ED in your hospital, but this ED information **should not** be collected if the patient has already been admitted to a ward elsewhere).

4. If a patient fell whilst an inpatient in your hospital with no attendance at your ED, select "No" radio button for "Did Patient attend ED" and proceed to the "Inpatient" form on REDCap.

5. If a patient fell whilst an inpatient at another hospital, only record ED information from your hospital if the patient was transferred through your ED.

6. If a patient had more than one presentation to ED before the hip fracture was diagnosed, start the audit from the ED visit when the fracture was diagnosed and the patient was admitted to orthopaedic care. Record details of any previous ED attendance (dates/ times/ diagnosis) in your Comments section.

7. If the patient attended ED but the hip fracture was **not suspected** until after the patient was admitted (e.g. to a medical ward) or was 'ruled out' whilst the patient was in ED, i.e. the patient was not treated as a hip fracture whilst in ED, record the date/ time the patient attended ED and "fracture suspected or confirmed in ED" as "No". These patients will still be reviewed as potentially 'missed fractures' therefore **please still complete all other ED information.**

Number	Field name	Definition	Variable Required
17	Date/Time arrival at ED	Record the date and time that the patient attended ED. This should be the arrival date/ time or the earliest recorded date/ time within the ED. **Notes:** If the patient has been transferred after presenting at another ED/ MIU, this will be the same date/ time as Q12.rk as Not recorded (99) if date or time is unknown/ not recorded or if the notes were not seen. Document additional information in the Comments section. Mark as Not recorded (99) if date or time is unknown/ not recorded or if the notes were not seen. 	Enter date: YYYY-MM-DD Example: 2021-05-01 Enter time: HH:MM Example: 13:15 Or enter: Not recorded (99)
18	Date/Time left ED	Record the date and time the patient left ED for transfer to a ward/ theatre. **Notes**: Mark as Not recorded (99) if date or time is unknown/ not recorded or if the notes were not seen. Mark as Not recorded (99) if date or time is unknown/ not recorded or if the notes were not seen. It is important that this time is recorded accurately as the time left ED **will be used to calculate achievement of several of the inpatient standards**, e.g. inpatient bundle, time to theatre etc.	Enter date: YYYY-MM-DD Example: 2021-05-01 Enter time: HH:MM Example: 13:15 Or enter: Not recorded (99)

Number	Field name	Definition	Variable Required
		If the patient has an **inpatient fall and the time left ED is therefore Not Applicable**, the clock will start for inpatient standards at the time of the fall/ fracture and/ or Ortho team are informed. If the patient is a **direct transfer** from one ED to another record the time the patient left the **second** ED.	
19	Fracture (#) suspected or confirmed in ED	Record whether or not the hip fracture was suspected or confirmed in ED. **Notes**: Use "Yes" if the fracture was confirmed or suspected in ED, even if it required further confirmation after admission. Only use "No" if the fracture was not suspected or confirmed in ED, or if the suspicion of a hip fracture had been 'ruled out' after x-ray. In such cases, patients may have been admitted to a medical ward or to orthopaedics with other injuries or non-hip related pain. If you use " No", record all other ED information but confirm the attendance and the details of why the patient was not thought to have a hip fracture in the Comments section.	
20	Analgesia	Record if analgesia was **given or offered. Analgesia could be given pre-arrival at ED** (e.g. by GP or Scottish Ambulance Service (SAS)) or **in ED** prior to transfer to second ED or to the ward. **Notes:** **Entonox is not included** as a form of analgesia as it does not always provide adequate pain relief and its effects are very short lived.	Select one of the following: 1 = Analgesia given in ED (or SAS) 2 = Not given – declined 3 = Not given – no reason

Number	Field name	Definition	Variable Required
		Use "**Analgesia given in ED (or SAS)**" if any type of analgesia was given including a nerve block. Use NR (Not recorded) if the notes were not seen, explaining use of NR in Comments section.	9 = Not given – other reason NR
21	Nerve block first given	Record if the patient had a nerve block and if so, where it was **first** given. For example, was it given in ED or in the ward? **Note:** Use NR (Not recorded) if the notes were not seen, explaining use of NR in Comments section.	Select one of the following: 1 = Nerve block given in ED 2 = Not given – declined 3 = Not given – no reason 4 = Nerve block first given in ward 9 = Not given – other reason NR
22	ECG carried out	Record whether the patient had an electro-cardiograph (ECG) carried out **in ED**. **Note:** Use NR (Not recorded) if the notes were not seen, explaining use of NR in Comments section.	Select one of the following: 1 = Yes 2 = No NR
23	Bloods taken	Record whether blood samples were taken **in ED**, e.g. Full Blood Count (FBC), Urea & Electrolytes (U&E) etc. If nothing is documented in the ED notes, check the Results Reporting System. If checking this system, then it is important to **accurately check the time to ensure that the bloods were taken when the patient was in ED**.	Select one of the following: 1 = Yes 2 = No NR

Number	Field name	Definition	Variable Required
		Note: Use NR (Not recorded) if the notes were not seen, explaining use of NR in Comments section.	
24	Pressure areas recorded	Record whether a pressure area inspection was carried out **in ED**.

This can include a visual inspection as well as completion of a formal assessment tool such as Waterlow Score. Evidence of this being done should be clearly documented in the patient's notes for it to be included in the audit.

Note: Use NR (Not recorded) if the notes were not seen, explaining use of NR in Comments section. | Select one of the following:

1 = Yes

2 = No

NR |
| 25 | IV fluids | Record whether IV fluids were commenced in **ED or by SAS or prior to transfer**.

Notes:

Oral fluids are **not included** as IV fluids.

In some circumstances, it may be clinically appropriate that patients do not have IV fluids. This should be documented in the patient's notes by medical or specialist nursing staff.

Only use "**Yes**", if there is **clearly documented evidence** that IV fluids have been **commenced in ED/ by SAS or prior to transfer, i.e. not just prescribed**.

Only use "**Not required**" if there is **clearly documented evidence** that IV fluids **are not required**.

Use NR (Not recorded) if the notes were not seen, explaining use of NR in Comments section. | Select one of the following:

1 = Yes

2 = No

3 = Not required

NR |

Number	Field name	Definition	Variable Required
26	EWS score recorded in ED	Record if an Early Warning System (EWS) score was recorded **in ED**. **Note:** Use NR (Not recorded) if the notes were not seen, explaining use of NR in Comments section.	Select one of the following: 1 = Yes 2 = No NR
27	Delirium Screening in ED	Record only if the 4AT was carried out in ED. Use NR (Not recorded) if the notes were not seen.	Select one of the following: 1 = Yes 2 = No NR
28	Delirium Screening score in ED	If the 4AT assessment was carried out in ED (i.e. Q27 = "Yes") record the 4AT score. **Note:** Use 99 (Not recorded) if the 4AT was carried outbut the score is unknown/ not recorded or if the notes were not seen.	Select a number, from 0-12 Or use: 99

Inpatient Stay

Please note:

- Some transfer patients may be temporarily admitted to the first hospital, due to their condition or transfer issues, prior to being transferred to the operating hospital. Combined data relating to their inpatient stay should be collected from both the first hospital and operating hospital.

- Some patients may sustain their hip fracture whilst already an inpatient in your hospital or another hospital. In these cases, all of the data collected in the 'Inpatient Stay' section pertain to what happened after the fracture is suspected/ diagnosed, rather than when orthopaedics become involved, i.e. in either hospital.

- If a patient is not admitted via ED, e.g. they fall and fracture on a ward (inpatient hip fracture) - some assessments should be re-done and recorded, e.g. falls, pressure area, delirium. It is accepted that there may not be a requirement to re-assess nutritional state immediately if already assessed in previous ward. However if the assessment was done >7 days ago the nutrition assessment should also be re-done.

Number	Field name	Definition	Variable Required
29	Date/time of admission	The date/time of admission will normally be: • **For ED patients** - when the patient is transferred from ED and arrives in the ward (usually orthopaedic, but also holding wards, or other medical wards) provided the hip fracture has been suspected or confirmed in ED, i.e. the date/ time the patient arrives in the ward (first recorded date/ time in the ward). For transferred patients this would be the time transferred to a ward in the first	Enter date: YYYY-MM-DD Example: 2021-05-01 Enter time: HH:MM Example: 13:15 Or use: 99 (Not recorded)NR

Number	Field name	Definition	Variable Required
		hospital, or, if not admitted to a ward in the first hospital, the time admitted to a ward in the operating hospital	
		• **For Inpatients** - when the patient's hip fracture is suspected/ diagnosed (often after a fall) the fall/ diagnosis time should be used rather than when the patient is transferred to Orthopaedics. For transferred patients who had inpatient falls, this would be the time the fracture was suspected/ diagnosed in the first hospital	
		• **For patients admitted via their GP** - when a patient is clinically diagnosed with a hip fracture by a GP and is transferred directly into a ward in your hospital use the date/ time the patient was admitted to the ward	
		• **For patients taken straight to theatre from ED**, use the date/time the patient was admitted to theatre	
		In all of the above cases other injuries or conditions may be a priority for care and the patient may not be treated in an orthopaedic ward, but the date/ time of admission would still reflect the inpatient time when the hip fracture had been suspected/ diagnosed and subsequently reported to Orthopaedics	
		Notes:	
		Occasionally 99 (Not recorded) can be used for time (but not date) of admission if no time information is available (e.g.	

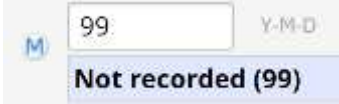| Number	Field name	Definition	Variable Required
		time when fracture suspected/ diagnosed after an inpatient fall is not recorded). M ⟶ 99 Y-M-D H:M:S **Not recorded (99)**	
30	Pathological fracture (#)	Record whether or not a pathological fracture was confirmed. **Notes:** The majority of hip fractures are deemed to be 'fragility' fractures as they are a result of low energy trauma such as a fall. Most of these people will have osteoporosis or osteopenia. Use "**No**" if there is no record in the notes that the fracture is pathological, this would include those deemed as a fragility fracture. If it is confirmed in the notes that the patient has had a pathological fracture, record which type using "Atypical" or "**Malignant**". Use "**Atypical**" if for example, the cause is thought to be due to bisphosphonate use or Paget's disease or osteomalacia. Use "**Malignant**" if the fracture is due to cancer/ tumour. If the tumour is thought to be benign, use "**Type Unknown**". Use "**Type Unknown**" if it is confirmed the patient has had a pathological fracture but the type is not known/ not recorded in the notes. Use NR (Not recorded) if the notes were not seen, explaining use of NR in Comments section.	Select one of the following, in line with the descriptions opposite: 2 = No 3 = Atypical 4 = Malignant 5 = Type Unknown NR

Number	Field name	Definition	Variable Required
31	Falls Assessment timing	Record if the first falls assessment, e.g. Morse Fall Scale was done **within 24 hours of admission**, i.e. in relation to the time left ED (Q18). **Notes:** For patients not admitted through ED the timing of the falls assessment should be calculated in relation to the time the fracture was suspected/ diagnosed within the hospital or the date/ time of direct admission to the ward – section 30. **For inpatient falls, pre-fracture or pre-diagnosis falls assessments should not be included** as the **patient should be re-assessed following fracture/ diagnosis.** If there is evidence in the notes of the patient having a **falls assessment after the fall but before formal confirmation of the fracture or informing of the Ortho team this can be included** as a falls assessment for the audit. Use NR (Not recorded) if insufficient data is recorded in the patient's notes to allow you to calculate whether or not the falls assessment was done within 24 hours or if the notes were not seen.	Select one of the following: 1 = Yes 2 = No NR
32	Must Score	Record the **score** from the first nutritional assessment, e.g. Malnutrition Universal Screening Tool (MUST) was **done within 24 hours of admission**, i.e. in relation to the time left ED (Q18). **Notes:** If more than one score was recorded within 24 hours of admission, record the highest.	Enter score: 0 - 6 Or use: 99

Number	Field name	Definition	Variable Required
		For patients not admitted through ED the timing of the nutrition assessment should be calculated in relation to the time the fracture was suspected/ diagnosed within the hospital or the date/ time of direct admission to the ward – Q29. **For inpatient falls, existing relevant pre-fracture or pre-diagnosis nutrition assessments should be included** as the scores provided they were done within the last 7 days. If > 7 days have elapsed since nutrition assessment, then this should be redone. Use 99 (Not recorded) if insufficient data is recorded in the patient's notes to allow you to calculate whether or not the MUST score was done within 24 hours or if the notes were not seen.	
33	Prescription of oral nutritional supplements	Record if oral nutritional supplements were prescribed within the first 24 hours following admission. Use NR (Not recorded) if insufficient data is recorded in the patient's notes to allow you to determine whether or not the oral nutritional supplements were prescribed within 24 hours or if the notes were not seen.	Enter one of the following codes: 1 = Yes 2 = No NR
34	Dietetic referral	If the MUST score was 2 or greater was there a dietetic referral? Use NR (Not recorded) if insufficient data is recorded in the patient's notes to allow you to determine whether or not there was a dietetic referral within 24 hours or if the notes were not seen.	Enter one of the following codes: 1 = Yes 2 = No NR
35	Pressure area	Record if the first formal pressure area assessment, e.g. Waterlow Score, **was**	Select one of the following:

Number	Field name	Definition	Variable Required
	assessment timing	**done within 24 hours of admission**, i.e. in relation to the time left ED (section 19). Record **only formal assessments** rather than evidence of visual inspection only. **Notes:** For patients not admitted through ED the timing of the pressure area assessment should be calculated in relation to the time the fracture was suspected/ diagnosed within the hospital or the date/ time of direct admission to the ward – section 30. **For inpatient falls, pre-fracture or pre-diagnosis pressure area assessments should not normally be included**, as the patient should be re-assessed following fracture / diagnosis. If there is evidence in the notes of the patient having a **pressure area assessment after the fall but before formal confirmation of the fracture or informing of the Ortho team this can be included** as a pressure area assessment for the audit. Use NR (Not recorded) if insufficient data is recorded in the patient's notes to allow you to calculate whether or not the pressure areas assessment was done within 24 hours or if the notes were not seen.	1 = Yes 2 = No NR
36	Delirium screening on ward	Record only if the 4AT was carried out within 24 hours of ward admission, i.e. the time the patient left ED, Q18. For patients not admitted through ED the timing of the delirium screening should be calculated in relation to the time the fracture was suspected/ diagnosed within	Enter one of the following codes: 1 = Yes 2 = No NR

Number	Field name	Definition	Variable Required
		the hospital or the date/ time of direct admission to the ward – Q29. Use NR (Not recorded) should if insufficient data is recorded in the patient's notes to allow you to calculate whether or not the delirium screening was done within 24 hours or if the notes were not seen.	
37	Delirium screening score on ward	If the 4AT assessment was carried out within 24 hours of admission (i.e. Q36 = "Yes") record 4AT score. **Note:** Use 99 (Not recorded) if the 4AT was carried out but the score is unknown/ not recorded or if the notes were not seen.	Select a number, from 0-12 Or use: 99
38 i	Geriatric review	Record if the patient had a Geriatric review commenced **after** they had been admitted for hip fracture. **Notes:** The review also known as a CGA would usually be carried out by either a geriatrician or a specialist nurse. Use "No" if the patient did not have a CGA by 7 days following the time left ED (section 19). There is no need to continue to look for appointments occurring more than a week after admission. Use "**Local protocol**" if an assessment has not been done and the local protocol does not require a CGA (e.g. age <75, or fell while skiing). Use NR (Not recorded) if the date of the assessment is not known/ not recorded or if the notes were not seen explaining use of NR in Comments section.	Enter one of the following codes: 1 = Yes 2 = No 3 = Local Protocol NR

Number	Field name	Definition	Variable Required
38 ii	Geriatric Review date	If the patient had a Geriatric review (i.e. Q38 i = "Yes"), record the date the patient first had a geriatric review commenced **after** they had been admitted for hip fracture, i.e. the time the patient left ED as recorded in Q18. **Notes:** Mark as Not recorded (99) if date is unknown/ not recorded or if the notes were not seen. Document additional information in the Comments section. Documentation that the patient was 'not fit' for assessment is **not classed as a CGA**. Use NR (Not recorded) if the date of the assessment is not known/ not recorded or if the notes were not seen explaining use of NR in Comments section.	Enter date: YYYY-MM-DD Example: 2021-05-01 Or use: 99 (Not recorded)
39	Assessed by	If the patient had a Geriatric review (i.e. Q38 i = "Yes"), record who did the patient's first geriatric assessment, i.e. which discipline. **Notes:** "**Geriatrician**" - need not be a consultant, but must be a member of a dedicated Care of the Elderly team, e.g. Specialist Trainee. "**GPWSI**" - GP with Special Interest If "**Other**" is used, give full details in the Comments section. Use NR (Not recorded) if the person that completed the assessment is not known/ not recorded or if the notes were not seen	Select one of the following: 1 = Geriatrician 2 = Specialist Nurse 3 = GPWSI 9 = Other NR

Number	Field name	Definition	Variable Required
		explaining use of NR in Comments section.	

Surgery

Number	Field name	Definition	Variable Required
40	Date/Time into theatre	If the patient was operated on, **within the first week of admission**, record the date and time the surgical repair commenced – defined as '**induction of anaesthetic**'. This information should be taken from the anaesthetic/ theatre/ surgical record. **Notes:** Mark as Not recorded (99) if the date/ time into theatre is unknown/ not recorded or if the notes were not seen. If the patient does not go to theatre immediately, continue to monitor until at least day 8, e.g. if patient admitted on 4th February, continue to monitor until 12th February, so that you can be sure they have not gone to theatre in the first week. If '**induction of anaesthetic**' is not available, anaesthetic pause time can be used instead and should be documented in the comments section - please advise the central team if this is a regular issue. If neither of these times are available, please contact the central team for advice.	Enter date: YYYY-MM-DD Example: 2021-05-01 Enter time: HH:MM Example: 13:15 Or use: 99 (Not recorded)
41	ASA Grade	Record the American Society of Anaesthesiologists (ASA) grade as documented by the anaesthetist. **Notes:** American Society of Anaesthesiologists (ASA) grades:	Select one of the ASA grades 1 – 5, Or use one of the Audit specific codes: Or use one of the following codes as defined:

Number	Field name	Definition	Variable Required
		1. = Normal healthy individual 2. = Mild systemic disease that does not limit activity 3. = Severe systemic disease that limits activity but is not incapacitating 4. = Incapacitating systemic disease which is constantly life-threatening 5. = Moribund – not expected to survive 24 hours with or without surgery Or use additional codes identified specifically for this audit: 6. = Not ever fit for theatre – a decision has been made that the patient is not ever likely to be fit for theatre (e.g. palliative care only/ end of life care pathway has been agreed). 7. = Surgery not required – a decision has been made that the fracture does not require surgery and the patient is to be conservatively managed (e.g. old fractures). Use NR (Not recorded) if the ASA grade is not known/ not recorded or if the notes were not seen.	6 = Not ever fit for theatre 7 = Surgery not required NR
42	Main reason for Theatre Delay greater than 36 hours	If the patient was delayed for surgery by more than 36 hours from the date/ time they left ED (section 19) record the main reason for the delay: 8. **No delay** = surgery within 36 hours of admission. 9. **Medically unfit** = this can include clear documentation of a clinical decision that the patient is not fit for	Select one of the following, in line with the descriptions opposite: 0 = No delay 1 = Medically unfit

Number	Field name	Definition	Variable Required
		theatre as well as evidence that ongoing intervention is the reason for delay, such as correction of anti-coagulants, treatment of infection etc. The reason for the patient being medically unfit needs to be clearly documented in the patient's records before it can be included in the audit. **Please note the reason the patient is 'medically unfit' in the comments box**. 10. **Lack of theatre time** = if a lack of theatre time/ capacity is clearly documented in the patient's records. 11. **Initial conservative treatment** = if the patient was initially being treated conservatively due to uncertainty about longer-term outcomes. 12. **Further fracture (#) investigation**, e.g. awaiting MRI/ bone scan to confirm diagnosis/ type of fracture. **Note:** that this should not be applied to patients whose fracture is not yet suspected/ diagnosed, only to those whose fracture is suspected/ diagnosed and who are thereafter delayed due to a wait for an investigation. 13. **Delayed consent** = if the patient has requested additional time to consider surgery. 14. **Wait for Total Hip Replacement (THR)** = in some cases a total hip replacement is the preferred	2 = Lack of theatre time 3 = Initial conservative treatment 4 = Further # investigation 5 = Delayed consent 6 = Wait for Total Hip Replacement (THR) 9 = Other Or use: NR

Number	Field name	Definition	Variable Required
		treatment option, use this code if there was a delay because of this. 9. **Other** **Note:** Use NR (Not recorded) if the reason for delay has is not known/ not recorded or the notes were not seen. Explain use of NR in Comments section.	
43	How many times was patient fasted?	Record the total number of periods of enforced fasting that the patient had prior to surgery. As well as fasting for the actual surgery, **include periods of fasting when surgery did not take place**, e.g. prior to a previous cancelled surgery, or fasted after a late admission for possible surgery in the morning, noting that in order to be classed as fasted, the **patient must have missed at least one meal**. Examples: patient admitted and fasted from 3am, cancelled at 11 =30am but missed breakfast would be classed as fasted x1 = Patient admitted at 9pm, fasted overnight, reviewed at 8am, not for theatre and given breakfast would not count as a fasting period as had breakfast and did not miss a meal. **Notes:** Use 88 (Not applicable) if the patient was admitted nil by mouth (NBM) due to swallowing problems and explain in the Comments section. Use 99 (Not recorded) if it is unknown how many times the patient was fasted. It should be clearly documented in the patient's records that they have been fasted for surgery. It **should not be assumed** that if the patient went to	Enter up to a two digit number. Or enter one of the following: 88 = Not applicable 99 = Not recorded

Number	Field name	Definition	Variable Required
		theatre shortly after admission or in the first 24 hours that they were fasted once.	
44	Type of operation	Record the type of operation that was carried out to repair the hip fracture. This information can usually be found in the operation notes. 1. **Cannulated screws** = AO screw or nail. 2. **Intramedullary (IM) fixation** = IM nailing, gamma nail, ender nail, Affixus femoral nails. 3. **Pin and plate** = includes Dynamic Hip Screw (DHS). 4. **Hemiarthroplasty (Hemi) cemented** = Thompsons, Hastings, Exeter hemi. 5. **Hemiarthroplasty (hemi) Uncemented** - Austin Moore. 6. **Hemiarthroplasty cement not specified** – please make every effort to find out whether cement has been used or not. 7. **Total Hip Replacement (THR)** = Exeter, Exeter/ Ogee, c-stem marathon, Corail pinnacle ceramic, CPT/ ZCA. 8. **Other**, please add additional information to Comments section. **Notes:** For further information, please refer to the Decision Log available on MS Teams.	Select one of the following, in line with the descriptions opposite: 1 = Cannulated screws 2 = Intramedullary fixation 3 = Pin and plate (includes DHS) 4 = Hemi-cemented 5 = Hemi-Uncemented 6 = Hemi-cement not specified 7 = THR 9 = Other
45	Type of anaesthetic	Record the type of anaesthetic used. **Notes:** Use 3 = Both spinal and General Anaesthetic (GA) given – use this code if	Select one of the following: 1 = Spinal
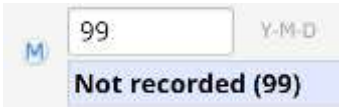
Number	Field name	Definition	Variable Required
		there is no documented evidence that a GA was performed because of an ineffective spinal.	2 = General
			3 = Both spinal and GA
		Use 4 = Failed spinal progressing to GA if a spinal anaesthetic was attempted and failed and a decision was made to progress to GA.	4 = Failed spinal progressing to GA
			9 = Other
		We are primarily interested in whether the patient had a spinal or a GA therefore if they had for example a GA with a block, then you would code this as a GA.	Or use: NR
		Use NR (Not recorded) if the type of anaesthetic is not known/ not recorded or if the notes were not seen.	

Post-operative care and discharge

Number	Field name	Definition	Variable Required
46	Bone health assessed	The aim is that all patients continue on bone protection medication, are started on treatment during their acute admission or have an assessment planned for this in the early discharge period. Record the details of **any assessment of, or referral** for bone health prior to leaving acute orthopaedic care. **Notes:** Use **1 = Yes** if bone health has been considered and relevant medication reviewed and/ or continued and/ or new bone protection medication commenced, or if a referral has been made for FLS/ DEXA/ OS. **This needs to be clearly documented in the patient's records**. Use **2 = No** if there is no evidence of a bone protection medication review/ continuation of medication or referral for bone health assessment. Also record as No if the patient is documented 'not fit' for bone health review. **Do not assume** that if local policy/ standard practice is to refer patients, that they have been referred, unless it is **clearly documented** in the patient's records or confirmed by the FLS or other service. **Note:** If the answer to this question is "No" or "NR" you will be asked to check again for evidence of referral in the 60-day review.	Select one of the following codes, in line with the descriptions opposite: 1 = Yes 2 = No NR

Number	Field name	Definition	Variable Required
47	Post-op mobilisation	Record when the patient first mobilised after their operation. **Notes:** This includes mobilisation by the physio or other member of the team, e.g. nurses. This can include getting out of bed to use the toilet as well as more formal mobilisation, i.e. up to stand/ up to sit out of bed providing the patient has stood and taken weight through their legs. For example, **the use of a sling support would not be classed as mobilisation**. This information should be recorded in the nursing or physiotherapy notes or the integrated care pathway. 1 = By first day post-op, includes patients that were mobilised on day of surgery. Only use 9 = Not for mobilisation for patients **who were not mobile pre-fall / surgery**, for example, a patient who was wheelchair or bed bound before having their fractured hip, and describe fully in Comments. Use NR (Not recorded) if when the patient was first mobilised is not known/ not recorded or if the notes were not seen.	Select one of the following: 1 = By first day post-op 2 = Second day post-op 3 = Third day post-op or later/ not mobilised 9 = Not for mobilisation Or use: NR
48 i	Physio assessment	Record if the patient was assessed post-operatively by a member of the physiotherapy team. **Notes:** Use "No" if the patient was not seen by a physiotherapist within 7 days of surgery. There is no need to continue to look for the first assessment date after this.	Select one of the following codes: 1 = Yes 2 = No NR

Number	Field name	Definition	Variable Required
48 ii	Date assessed by physio	If Q48i = "Yes", record the date the patient was first assessed post-operatively by a member of the physiotherapy team. **Notes:** The patient may have been assessed by a physiotherapist but not mobilised due to the patient being unfit to get out of bed. **Record the date the first assessment took place**. If the patient is admitted to ITU/ HDU immediately post-operatively and has a full assessment i.e. not just a respiratory assessment by a physiotherapist whilst in ITU/ HDU then record the date they were first assessed. Mark as Not recorded (99) if the date of assessment was not known/ not recorded, or the notes were not seen. | M	99	Y-M-D | Not recorded (99)	Enter date: YYYY-MM-DD Example: 2021-05-01 Or use: 99 (Not recorded)
49 i	OT assessment	Record if there was Occupational Therapy (OT) input in the patient's care after admission. This can be by any member of the OT team. **Notes:** This measure is the **start** of the OT assessment process and **may include formal physical assessment as well as gathering of information** regarding the patient's functional status prior to the hip fracture. Therefore, an **entry recorded as 'not fit' or 'patient unavailable' is not regarded as the start of this process**. There must be evidence of consideration of an individual's OT requirements	Select one of the following codes: 1 = Yes 2 = No NR

Number	Field name	Definition	Variable Required
		regardless of their normal place of residence.	
		For example, if the patients normal place of residence is a care home and there is evidence in the patient's records that the OT has discussed the patient's requirements with the care home staff, record the date of OT input as when this discussion took place.	
		If there is no record in the patient's notes that this has happened, please use "No". Also use "No" if the patient was not seen by an Occupational Therapist within 7 days of admission. There is no need to continue to look for the first assessment date after this.	
49 ii	Date assessed by OT	If Q49i = "Yes", record the date the first time after admission that there was Occupational Therapy (OT) input in the patient's care. This can be by any member of the OT team. **Notes:** Mark as Not recorded (99) if the date of first OT input was not known/ not recorded, or the notes were not seen.	Enter date: YYYY-MM-DD Example: 2021-05-01 Or enter: 99 (Not recorded)
50	Date of discharge	Record the date of discharge from acute orthopaedic care. **Notes:** If the patient was transferred to a rehabilitation ward (or an acute or NHS Continuing Care ward) prior to discharge from hospital, use the date of transfer from the orthopaedic ward to the other ward as the date of discharge.	Enter date: YYYY-MM-DD Example: 2021-05-01 Or enter: 99 (Not recorded)

Number	Field name	Definition	Variable Required
		Wherever possible only mark the Discharge form on REDCap as "complete" if all patient information is available. However, on occasion, if it is deemed necessary to mark as "complete" prior to knowing the discharge information. Mark as Not recorded (99) if the date of discharge was not known/ not recorded, or the notes were not seen. You will be asked about this again in validations that are sent out.	
51	Discharge destination	Record the place that the patient was discharged to from acute orthopaedic care: 1. **Home** = when the patient is discharged home, i.e. permanent address or if they are permanently living with a relative. This **should include** when the patient is discharged home with support from the **Hospital at Home** team. 2. **Care home** = this can be a residential or nursing home provided it's the person's permanent home/ usual place of residence. 3. **NHS continuing care** = when the clinical team is no longer attempting to get a patient home. The patient may be awaiting a place in a nursing home or for funding, or may have become a permanent hospital patient. Before allocating this code, always check with the nurse in charge of the patient's care to determine the	Select one of the following, in line with the descriptions opposite: 1 = Home 2 = Care home 3 = NHS continuing care 4 = Rehabilitation 5 = Acute hospital 6 = Intermediate care – NHS funded 7 = Intermediate care – non-NHS funded 9 = Other (specify in comments box) 10 = Died 88 = Still in ortho care NR

Number	Field name	Definition	Variable Required
		exact reasoning for the patient's placement and document in the Comments section. This **should include** patients being returned to or transferred to **long term elderly psychiatry** (see notes below) 4. **Rehabilitation** = when the patient is transferred either to a dedicated rehabilitation ward or to a bed in a ward where rehabilitation is planned. 5. **Acute hospital** = when the patient is discharged to another acute ward such as general medicine, critical care, acute psychiatry or care of the elderly (see notes below). 6. **Intermediate care – NHS funded bed**. This code should only be used when the patient is discharged to a NHS funded bed in a care facility for 'intermediate care', i.e. the plan is still that the patient's final destination will be home. 7. **Intermediate care – non-NHS funded bed**. This code should only be used when the patient is discharged to a care home or other non-NHS funded facility for 'intermediate care', i.e. the plan is still that the patient's final destination will be home. 8. **Other** = includes non-NHS respite care or hospice, prison, homeless, or private hospital care. Please	

Number	Field name	Definition	Variable Required
		provide further details in Comments section.	
		9. **Died** = the person died prior to leaving the acute orthopaedic ward.	
		88. **Still in ortho care** = if the patient has not yet been discharged.	
		99. **Not Recorded** = if discharge destination is not known or notes were not seen	
52	Discharge destination (cont.)	**Notes:**	
		Transfers to Psychiatry should be coded according to type of bed, for example, acute=Acute Hospital (5), long term psychiatry/ elderly=NHS Continuing Care (3)	
		Transfers to a Care of the Elderly (COE) ward should be coded according to type of bed, for example, Rehabilitation (4), NHS continuing care (3), Acute COE= Acute Hospital (5).	
		Only use NR (Not recorded) when discharge details are not known/ not recorded or notes were not seen.	

Project Boxes 1-6

Use as advised in guidelines above and or as per local arrangement.

Data definitions – 60 day review

General notes

1. LACs are required to add the data on the subsequent stays for patients in the 60 day review period, details on any additional fractures incurred and details of any bone protection medication prescribed.

2. Ensure that you complete the review form on REDCap after the 60-day review date for each patient, probably about a week after the 60-day review date so that any further stays have had time to be recorded on the hospital system.

3. Details of the initial acute stay will automatically be populated on the review form. Upon reviewing, if any of the previously entered data needs to be updated, do so in the relevant forms (e.g. Discharge). Once changes are made and saved, they will automatically be applied to the "Initial acute stay" section of the review form.

1st bone assessment post-discharge if not assessed/ referred during initial stay

Number	Field name	Definition	Variable Required
53	Bone health assessed (2)	If a bone health assessment referral **was not recorded** during the acute stay, you will be prompted to record the details of **any assessment of, or referral** for bone health following discharge from acute care, but by the 60 day review date. **Notes:** Use **Assessed/Referred** if bone health has been considered and relevant medication reviewed and/ or continued and/ or new bone protection medication commenced, or if a referral has been made for FLS/ DEXA/ OS. **This needs to be clearly documented in the patient's records.** Use **Not assessed or referred** if there is no evidence of a bone protection medication review/ continuation of medication or referral for bone health assessment. **Do not assume** that if local policy/ standard practice is to refer patients, that they have been referred, unless it is **clearly documented** in the patient's records or confirmed by the FLS or other service.	Enter one of the following, in line with the descriptions opposite: Assessed/Referred Not assessed or referred
54	Date assessed/ referred	If the answer to Q53=Assessed/Referred - enter the date of **any assessment of, or referral** for bone health following discharge from acute care, but by the 60 day review date.	Enter date: YYYY-MM-DD Example: 2021-05-01

1st bone assessment post-discharge if not assessed/ referred during initial stay

Additional fractures Record additional fractures which occurred following the audited hip fracture

Number	Field name	Definition	Variable Required
55	Known	Using the radio buttons –enter 'Yes' or 'No' to indicate if the information regarding additional fractures is known or not.	Select one of the following: Yes No
56	Wrist	If Q55=" Yes", use the check boxes that have appeared to indicate that the patient had a subsequent wrist fracture by the 60 day review date.	Tick check box if patient had wrist fracture
57	Hip	If Q55=" Yes", use the check boxes that have appeared to indicate that the patient had a subsequent hip fracture by the 60 day review date.	Tick check box if patient had hip fracture
58	Vertebrae	If Q55=" Yes", use the check boxes that have appeared to indicate that the patient had a subsequent vertebrae fracture by the 60 day review date.	Tick check box if patient had vertebrae fracture
59	Other	If Q55=" Yes", use the check boxes that have appeared to indicate that the patient had a subsequent "other" fracture by the 60 day review date. Use comments to detail the fracture.	Tick check box if patient had other fracture

Bone medication

Number	Field name	Definition	Variable Required
60	Known	Using the radio buttons – enter 'Yes' or 'No' to indicate if the information regarding bone medication is known.	Select one of the following: Yes No

Number	Field name	Definition	Variable Required
61	Calcium	If Q60=" Yes" use the check boxes that have appeared to indicate that the patient was prescribed Calcium by the 60 day review date.	Tick check box if patient prescribed Calcium
62	Bisphosphonate	If Q60=" Yes" use the check boxes that have appeared to indicate that the patient was prescribed a Bisphosphonate by the 60 day review date.	Tick check box if patient prescribed a Bisphosphonate
63	Vitamin D	If Q60=" Yes" use the check boxes that have appeared to indicate that the patient was prescribed Vitamin D by the 60 day review date.	Tick check box if patient prescribed Vitamin D
64	Other	If Q60=" Yes" use the check boxes that have appeared to indicate that the patient was prescribed "other" bone medication by the 60 day review date. Use comments to detail the bone medication.	Tick check box if patient prescribed other
65	Comments	Field will be blank upon first reviewing the form. Enter a short summary of additional information in free text if for example: • Any pre-populated data is changed • Anything unusual happens, e.g. re-admission the same day • Patients transfer out of Scotland • Patients are lost to audit • LAC is waiting for data from another NHS Board	Text field

Stay history in the 60 days since admission

Number	Field name	Definition	Variable Required
66	Stay type	Enter where the patient has been for the 60 days since admission. Please select appropriate code according to definitions outlined in Q10 above. **Note:** Only use **'unknown'** if it is unclear in any part of the pathway where the patient was. If patient was **not discharged from acute care** and Q51="Still in Ortho care" no further input is required for the stay history.	Enter one of the following: Home Care home NHS continuing care Rehab Acute hospital IC – NHS IC– non-NHS Other Unknown
67	Stay start date	Enter the date the patient moved to the 'stay type' coded in Q66. **Note:** If patient was **not discharged from acute care** and Q51="Still in Ortho care" no further input is required for the stay history. Mark as 99 (Not recorded) if the stay start date is unknown rather than leave the field blank. 99 Y-M-D M Not recorded (99)	Enter date: YYYY-MM-DD Example: 2021-05-01 Or enter: 99 (Not recorded)
68	Stay reason	Enter one of the following reasons for the stay in the residence coded in Q66. • Surgical complications requiring re-operation • Surgical complications not requiring re-operation	Select one of the codes in the section opposite.

Number	Field name	Definition	Variable Required
		• Medical complication related to hip fracture • Unlikely/failed to manage at place of origin for non-acute reason • Admitted for reasons not related to hip fracture • Return to place of origin • Other • Unknown If patient was **not discharged from acute care** and Q51="Still in Ortho care" no further input is required for the stay history.	
69	Residence at 60 days	Enter where the patient was residing at 60 days' post admission. **Note:** This should match the last 'stay type' noted in Q66. If patient was not discharged from acute care and Q51="Still in Ortho care" then select "Still in acute orthopaedic care".	Enter one of the following: Home Care home NHS continuing care Rehabilitation Acute hospital IC– NHS funded IC– non-NHS funded Still in acute orthopaedic care Other Died Unknown
70	Date of death	If Q69 coded as "Died", you will be prompted to enter the date the patient died, provided it was **within 60 days**.	Enter date: YYYY-MM-DD

Number	Field name	Definition	Variable Required
		Note: Use 99 (Not recorded) if the date of death is unknown rather than leave the field blank.	Example: 2021-05-01 Or use: 99 (Not recorded)
71	60 day review date	Pre-populated field. Only enter audit data up until the 60-day review date provided 99 Y-M-D M Not recorded (99)	YYYY-MM-DD Example: 2021-05-01

Appendices

Appendix A – Pathological Fractures

Most hip fractures in elderly people are by their nature, fragility fractures, as they tend to occur with minimal trauma. For the purposes of the audit these are regarded as "normal" hip fractures and not pathological. Patients with osteoporosis and osteopenia are included within the "normal" fracture population as these conditions are in part an age related disease and their presence or absence does not specifically influence patient outcomes in the immediate setting.

The main reason for including further details on the category of pathological fractures is that there are conditions that cause a fracture where this has a significant impact on the patient's likely prognosis.

The first is patients who fracture through a tumour (either benign or malignant – malignant, being much more common in this age group) these should be coded as a pathological fracture.

The second group is those with atypical fractures, which is most commonly seen related to Bisphosphonate use. Atypical fractures are a very specific and rare group (probably <1% of all hip fractures) which need to meet a number of diagnostic criteria on XR before they can be deemed an "atypical" fracture.

Diseases like Paget's and osteomalacia do not necessarily mean that these patients would have had a pathological fracture unless it has been documented as part of their assessment that they have had a "pathological fracture". Again, any uncertainty would likely be best dealt with by discussion with the admitting/operating team. The general categories '88 (NA)= Not Applicable' or '99 (NR)= Not Recorded' can both mean slightly different things depending on which information is being collected, and this is further explained under each piece of information below. Though '99 = Not Recorded' may be used in some fields to indicate that the notes were not seen, this should be avoided where possible. Every effort should be made to view the patient's records in order to fully complete the audit and provide meaningful data.

Appendix B - Example Cross Index

	A	B	C	D	E	F	G	H
1	LAC hospital	MSk audit no	CHI	Forename	Surname	Date of admission	Reason if not audited Notes	Notes
2	RIE	102-1	1234567890	Joe	Bloggs	01/05/2021		
3	RIE	102-2	5234567891	Mary	Green	02/05/2021		
4	RIE	102-3	1884567892	Tony	Donnelly	03/05/2021		
5	RIE	102-4	1234589893	James	Smith	04/05/2021		
6	RIE	102-5	1237687894	Lucy	Wright	05/05/2021		
7	RIE	102-6	1234567895	Kate	Black	06/05/2021		
8	RIE	102-7	9934567896	Mark	Jones	07/05/2021		
9	RIE	102-8	1004567897	Vicky	Pope	08/05/2021		
10	RIE	102-9	1277567898	Greg	James	09/05/2021		

Appendix C - Types of Hip Fracture

The red and blue coloured areas are **included**

If this is the **only** fracture, please exclude

Greater trochanier

Pelvis

Hip joint

Femoral head

Intracapsular = Sub Capital / transcervical / midcervical / basocervical

Intracapsular fracture

Extracapsular fracture

Trochanteric fracture

Lesser trochanter

Sub-trochanteric fracture

5cm

Extracapsular = Intertrocanteric / pertrochanteric / subtrochanteric / NOF

Femoral shaft