



Royal College  
of Physicians

National Hip Fracture  
Database (NHFD)



# 15 years of quality improvement

The 2023 National Hip Fracture Database report on 2022

1 January 2022 – 31 December 2022

In association with



British Geriatrics Society  
Improving healthcare  
for older people



British Orthopaedic  
Association



Commissioned by



## Lay summary – hip fracture in 2022

Hip fracture is the commonest reason for an older person to need admission to hospital for emergency surgery. Every hospital in England, Wales and Northern Ireland is part of the [National Hip Fracture Database \(NHFD\)](#). This monitors and improves the care and recovery of all patients with this injury, and provides [information to help patients, their families and their carers](#).

The number of people who died in the month following a hip fracture has halved since the NHFD was set up (10.9% in 2007). This figure now stands at just one in 16 (6.2%), just as it did before the challenges of the COVID-19 pandemic.

[NHFD reports](#) from 2020 and 2021 showed that the standard of hip fracture care during this period remained higher than expected, as did rates of recovery. In 2022, one in 10 people with hip fracture still tested positive for COVID-19 while in hospital, but the effect of this on their recovery was much less. Unfortunately, the pandemic had a negative effect on the health of older people in general, and this placed an additional strain on hospital and community services, leading to an increase in the number of people who fell and broke their hip in 2022.

The age and frailty of many people with a hip fracture means that they need help from a wide range of doctors, nurses and therapists. New work published during 2022 has proved how important it is for the hip fracture team to work closely together, and to use feedback from patients and carers to improve the care that they provide.

In this report the NHFD recommends that:

- 1 hospital teams should look at the guidance and resources on the [Royal Osteoporosis Society](#) website, which help teams organise the care they provide and improve patients' recovery.

Patients have the best chance of recovery if they are cared for on a ward where a hip fracture team can work together, rather than separately. In 2022 it took longer for patients to reach such a ward, and fewer patients received prompt surgery to repair their broken hip by the day after they presented to hospital.

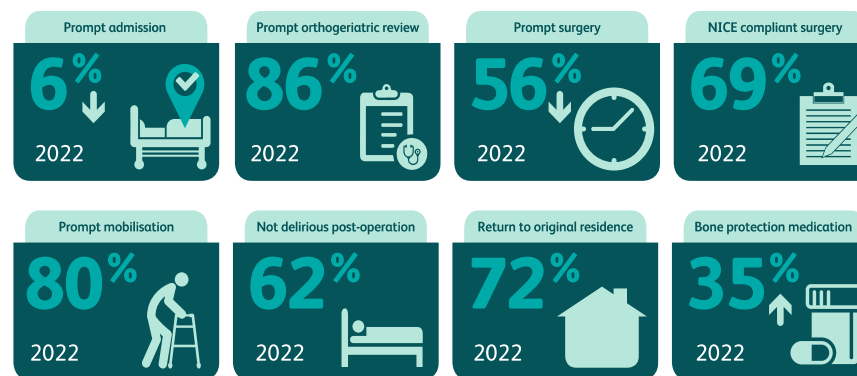
Hospitals should improve how they move patients to the right ward, operate and get patients out of bed promptly, and we recommend that hip fracture teams:

- 2 review the care provided in the emergency department (ED), so that patients are seen promptly, offered pain relief and admitted to an appropriate specialist ward within 4 hours
- 3 use the [NHFD website](#) to see why surgery is delayed, and work together so that surgery happens by the day after patients present with a hip fracture
- 4 use the [NHFD website](#) to see what more can be done to avoid patients becoming confused in hospital and to ensure that they are well enough to get out of bed on the day after their operation.

A quarter of people with a hip fracture will have another fracture within 5 years, and half of these will occur within 18 months. In 2022 there was an improvement in how many people with hip fracture received bone-strengthening medicines to avoid future fractures, but some hospitals continue to report that none of their patients receive such treatment.

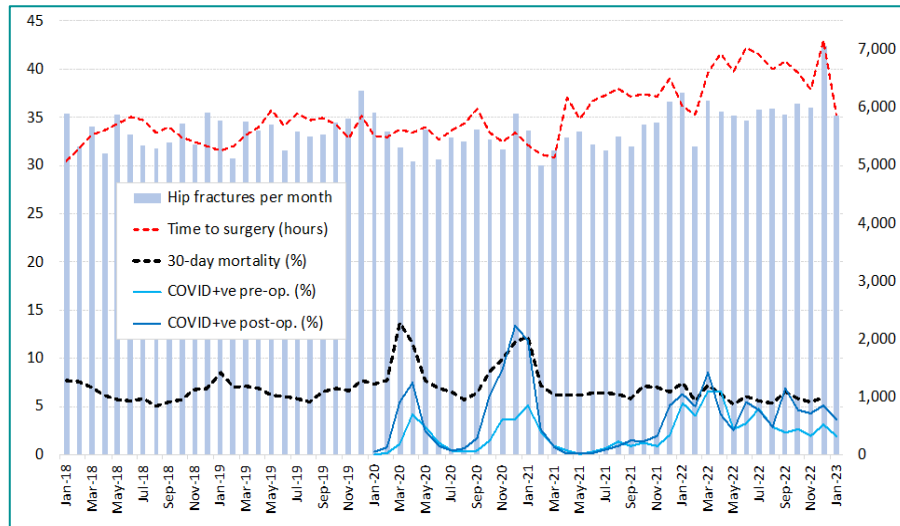
- 5 Hospital teams should ensure that all patients are either offered bone-strengthening treatment through a drip before leaving hospital, or that they are followed up after discharge to help them continue taking other forms of treatment.

### NHFD key performance indicators for patients with hip fracture in 2022



## More hip fractures than ever before

The most dramatic observation in 2022 was that over 7,000 people had a hip fracture in December, far higher than the average of 5,500 per month in recent years. The 72,160 hip fractures that the NHFD recorded in 2022 contrast with totals of under 66,000 in 2020 and 2021, and 67,000 prior to the pandemic.



Work using NHFD data from 2016–19 suggests that the [cost of inpatient care](#) for these extra fractures will have added £75 million to the annual cost of hip fractures.

These additional hip fractures happened despite a fall in the size of the ‘at risk’ older population over the preceding 3 years, as a result of COVID-19-related mortality among older people and those living in care homes.

Our [casemix run chart](#) shows a slight increase in the proportion of hip fractures occurring in people aged under 80. This is perhaps an early indication of [Public Health England’s predictions](#) that physical deconditioning and increased risk of falling due to the pandemic may lead to an increase in the number of people who are at risk of fragility fracture.

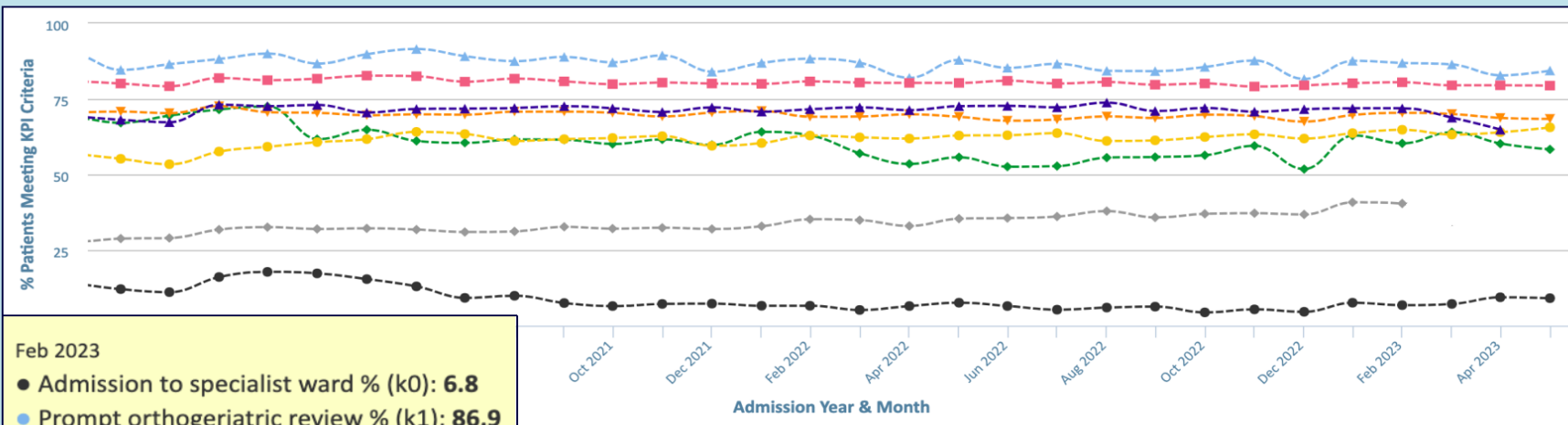
## More focused reporting

The [NHFD website](#) is designed as a quality improvement (QI) platform, making data available through a portfolio of interactive [run charts](#) and [benchmarking tables](#). Data are updated on the website in real time and our [2022 annual report](#) last year encouraged hospital teams to move to a quarterly governance cycle. This is now supported by quarterly updates of [NHFD benchmark](#) data, quarterly [NHFD online webinars](#) and the release of our [NHFD Quarterly journal](#) in our Update Weeks – the first weeks of every February, May, August and November.

This ready availability of open-access, real-time data means that this, the NHFD’s 15th annual report, can be more focused than ever before.

The NHFD’s key performance indicators (KPIs) are used to define five key aspects of patient care that are of the greatest importance at both a local and a national level. This report calls on health service managers and hospital executives to ensure that these are prioritised and considered as the basis for QI work in the year ahead.

- The [REDUCE](#) collaboration has shown the importance of effectively structuring hip fracture team governance meetings and multidisciplinary working; the focus of [QI focus 1](#).
- Older people with a broken hip need prompt hospital admission. This injury therefore provides a unique insight into pressures on ambulance services and emergency departments; [QI focus 2](#).
- The next element of early care is surgery. The [2023 update](#) to NICE guidance provides a standard against which to set the promptness of and approach to hip fracture surgery; [QI focus 3](#).
- Successful surgery and anaesthesia should leave the patient ready to get up the next day. Failure to achieve this implies a need to review perioperative care and in particular the prevention of delirium; [QI focus 4](#).
- Treatment for a fragility fracture must include measures to prevent the next one. Despite considerable progress, many patients do not start or do not continue bone-strengthening treatment to prevent their reoccurrence; [QI focus 5](#).



- Feb 2023
- Admission to specialist ward % (k0): **6.8**
  - Prompt orthogeriatric review % (k1): **86.9**
  - Prompt surgery % (k2): **60.3**
  - NICE compliant surgery % (k3): **70.4**
  - Prompt mobilisation % (k4): **80.5**
  - Not delirious post-op % (k5): **64.8**
  - Return to original residence % (k6): **71.9**
  - Bone protection medication % (k7): **40.4**

1. Hip fracture governance teams should review the findings and toolkit of the REDUCE collaboration and consider using these to help drive investment in better organisation of their services

2. Hip fracture and Emergency Department teams should review NHFD KPI 0 and consider developing a 'fast-track protocol' to reduce delays in patients reaching appropriate orthopaedic/orthogeriatric beds

## Five QI recommendations

3. Surgical teams should review NHFD KPI 2 & KPI 3 to review the promptness and appropriateness of the surgery they offer against the revised standards of the NICE guideline 2023

4. NHFD clinical leads should use NHFD KPI4 & KPI5 as indicators of the quality of the peri-operative care in their unit & consider whether a 'ready to return from recovery' protocol might improve performance

Ready to post-op?	Yes	Why not?
With physiotherapist	75%	
With other ward staff	2%	
No - lack of staff or other resources		1%
No - patient too agitated or confused		4%
No - symptomatic hypotension		3%
No - inadequate post-op pain control		3%
No - other documented contraindication		5%
No - other		8%

Health service managers, hospital executives and clinical leads should:

- Use the NHFD website to identify the Key Performance Indicators (KPIs) on which they most need to improve
- Use this report to select appropriate Quality Improvement projects to address these target areas
- Use live data from KPI run charts to monitor the impact of these QI projects

## from the NHFD

5. Clinical teams and local Fracture Liaison Services should review their use of zoledronate & other injectable therapies, to improve the proportion of people still on bone protection 4-months after hip fracture: NHFD KPI 7



## Quality improvement focus 1

NHFD 2023

### Review your approach to monthly hip fracture governance meetings

- Are all the right members of the team attending these meetings?
- Are meetings minuted and are all aspects of care discussed?
- Are updated NHFD data formally reviewed as they appear each quarter?

In collaboration with a team at the [University of Bristol](#) and the [Royal Osteoporosis Society](#), the [REDUCE study](#) used NHFD data, annual reports, facilities surveys, [Hospital Episode Statistics](#) (HES) and [British Orthopaedic Association](#) (BOA)-led reviews to examine how the organisation of hip fracture care affects patient outcome(s).

One of the key findings of REDUCE is the importance of regular, formal hip fracture governance meetings – length of stay (LOS) is shorter in hospitals that have these. Physiotherapists’ presence at these meetings decreases LOS and lowers mortality. The presence of an orthogeriatrician in the meeting was associated with a 1.5-day reduction in LOS and a saving of £356 per patient.

The NHFD’s [2022 facilities survey](#) examined multidisciplinary representation at governance meetings (see table).

Delays to surgery, delayed discharges and LOS, patient safety, complaints and critical incidents were discussed more frequently in 2022 than before; however clinical quality, pressure ulcers, inpatient falls and reoperations were discussed less frequently.

The NHFD’s template for [postal 120-day follow-up](#) includes both [NHS England’s Friends and Family Test](#) and an opportunity for patients to comment on their care in the form of free text, to stimulate [discussion in monthly governance meetings](#).

Hip fracture governance meeting attendees		
	Since 2017	2022
Orthopaedic consultant	0%	93%
Orthogeriatric consultant	↑ 4%	75%
Anaesthetic consultant	↑ 3%	62%
Nursing	↑ 33%	89%
Physiotherapy	↑ 16%	77%
Occupational Therapist	↑ 2%	48%
T&O managers	0%	67%
Dietetics	↓ 5%	5%
Social worker	↓ 5%	0%
Emergency Department	↓ 4%	22%
Community rehab. Team	↓ 5%	5%
Psychiatry/psychology	↓ 1%	1%

The number of hospitals using follow-up to seek feedback on patients’ experience has increased to 25% (compared to 21% in 2021), which is important as mortality was 10% lower in hospitals where such feedback was routinely discussed in these meetings.

## Quarterly updates

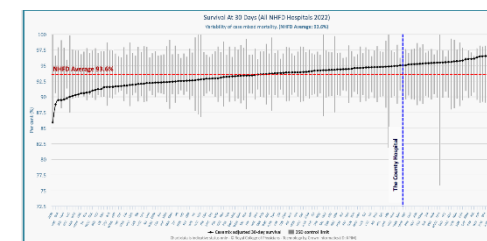
Our first [quarterly NHFD online webinar](#) in 2023 outlined our move from producing only an annual report to an update of the whole NHFD website every quarter.

NHFD Update Weeks	
<b>In the first week of:</b> <ul style="list-style-type: none"> <li>• February</li> <li>• May</li> <li>• August</li> <li>• November</li> </ul>	<b>The NHFD will:</b> <ul style="list-style-type: none"> <li>• update all website data</li> <li>• host our quarterly online webinar</li> <li>• publish the next edition of <a href="#">NHFD Quarterly</a> journal</li> <li>• remind teams to update their data by the next week.</li> </ul>
Teams should plan to review these updated data in their next monthly governance meeting.	
The <a href="#">Quarterly Governance Tool</a> described in our 2022 report will help trainees and new team members to do this and suggests how to plan QI work in response to their findings.	

## Casemix-adjusted 30-day mortality

Our [2021 report](#) outlined how the NHFD has moved to analyse 30-day mortality as soon as data are received from NHS Digital. The results are shown in our [casemix-adjusted mortality run chart](#) and updated quarterly so that hospitals can see their position at the earliest opportunity, without waiting for the annual report.

Click on this new [casemix-adjusted 30-day survival caterpillar plot](#) to see how your hospital compared with others in 2022.



Details of our casemix-adjustment model, our outlier policy and names of outlier units are summarised in our [mortality appendix](#). This explains how such information is shared with relevant organisations, and the support that we and [the BOA](#) provide to outlier hospitals.

We congratulate the teams in [Wythenshawe](#) and [St Thomas’](#) hospitals for the very low casemix-adjusted 30-day mortality that they both recorded in 2022.

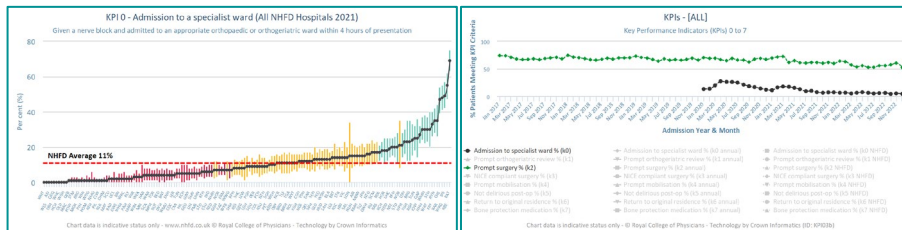
## Quality improvement focus 2

NHFD 2023

### Ensure that patients reach an appropriate bed promptly

- Benchmark your performance on [KPI 0: Admission to a specialist ward](#)
- Use this to identify and collaborate with a better-performing local unit
- Consider running a local sprint audit of key aspects of ED care
- Consider development of a ‘fast-track admission protocol’

2022 saw a deterioration in [KPI 0: Prompt nerve block and admission to a specialist ward](#) from 11.4% to 5.8%, although some units still achieved figures of over 40%.



## Inter-hospital transfers

In 2022 we recorded that just 758 (1%) of the 72,160 patients presenting to hospital with a hip fracture were transferred to another hospital for surgery. Most hospitals recorded none, but the extent of such transfers varies hugely and this is important when examining performance in hospitals that accept medically complex patients (such as those requiring dialysis or critical care) from neighbouring hospitals.

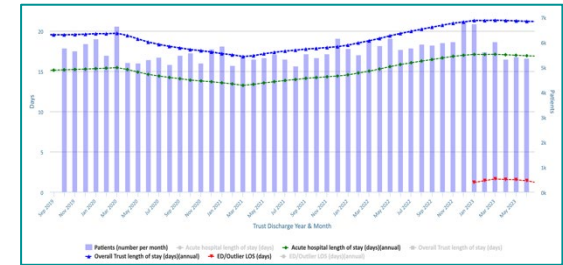
## Emergency department (ED) care

The [Scottish Hip Fracture Audit](#) (SHFA) audits a ‘Big Six’ bundle of care in ED. The NHFD and the audits in Scotland and [Ireland](#) have collaborated with the [Royal College of Emergency Medicine](#) to devise an [improvement tool](#) aligned to a [national consensus](#), which can be run as a ‘sprint audit’ by ED and hip fracture staff.

One element of such care is provision of a [nerve block as analgesia](#), where two-thirds of patients receive a nerve block. As we don’t wish to delay patients’ admission to the ward, the design of KPI 0 allows for the nerve block being given after the patient leaves the ED.

## Time spent in ED and outlying wards

KPI 0 captures how quickly patients reach the care of the multidisciplinary team who will lead their assessment and perioperative care on an orthopaedic or orthogeriatric ward.



We have now developed a new [length of stay run chart](#) to show the average time that a hospital’s patients spend in inappropriate settings: their time in the ED before arrival in the orthopaedic ward and/or any time spent as ‘outliers’ in other types of ward. On average, patients spend 2 days of their stay in beds outside the orthopaedic or orthogeriatric wards, but this varies between hospitals.

The new run chart will help units monitor the effect of work to improve KPI 0 and examine the impact on ‘outliers’ on the quality of care provided by their service.

In some hospitals, up to 50% of patients were recorded to never have reached an acute orthopaedic or orthogeriatric ward, but three-quarters of hospitals report that only a small proportion of patients (<5%) are managed in ‘outlying wards’.

Occasionally patients need admission to cardiology or dialysis, but if these are excluded, outcome is poorer for patients managed as ‘outliers’. Fitter patients (ASA grade 1–3) had an inpatient mortality of 8.3% if they remained on outlying wards, compared with 5.0% for those who went to an orthopaedic or orthogeriatric ward.

## Fast-track admission protocols

Performance on KPI 0 depends heavily on the [speed with which patients are admitted to an appropriate ward](#). A number of hospitals do very well in this regard, with over half of patients reaching an appropriate ward within 4 hours of their first presentation. Other hospitals achieve this for none of their patients with a hip fracture.

Poorly performing hospitals should consider discussing a ‘fast-track protocol’ with ED colleagues, to expedite patient assessment and admission.

Examples can be downloaded from [NHFD Resources](#).

## Quality improvement focus 3

NHFD 2023

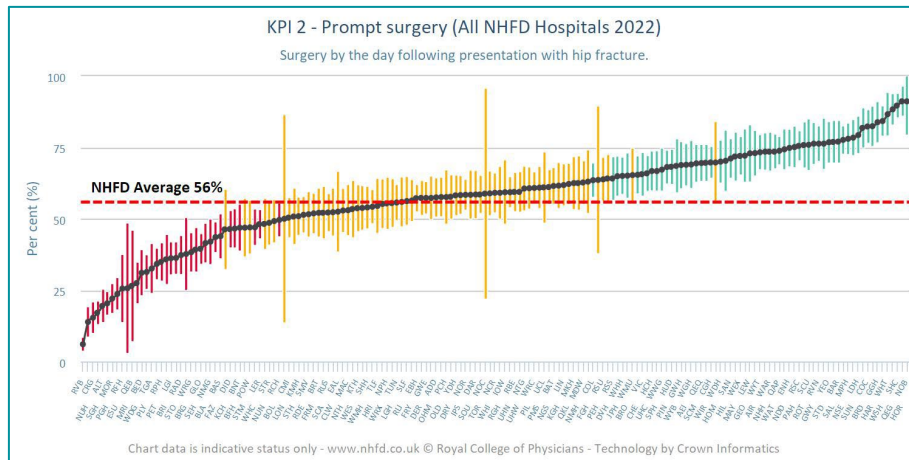
### Ensure that patients receive prompt and appropriate surgery

- Benchmark your provision of [KPI 2: Prompt hip fracture surgery](#)
- Benchmark the types of operation performed: [KPI 3: NICE compliance](#)
- Examine 'Fracture by surgery' table to identify areas in which local practice is inconsistent with the recommendations of NICE
- Use a systems-based, structured approach to identify areas for improvement and redesign

Surgical teams play several roles in providing and leading fragility fracture care. They are most often held to account for provision of timely surgery, using implants that provide safe and effective care while minimising both cost and variation.

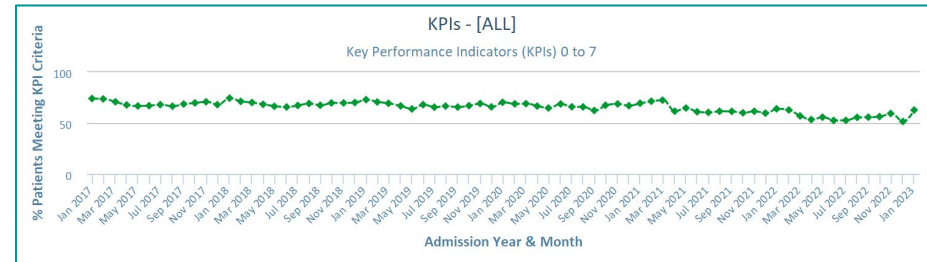
### Prompt surgery

NICE defined a [prompt operation](#) as one that happens 'the day of, or the day after, admission'; a humanitarian approach that underpins overall performance and is therefore the focus of the NHFD's KPI 2. Teams should set their own performance against that of their peers using the 'caterpillar plot' from [KPI 2: Prompt hip fracture surgery](#) to identify better-performing units from which they might wish to learn.

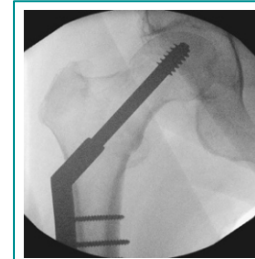


Trauma services excelled themselves at the height of the COVID-19 pandemic and KPI 2 remained stable at around 67%, but performance continued to deteriorate as we moved into a phase of post-pandemic recovery, and currently stands at 57%.

Units should use their monthly [KPI 2 run chart](#) to monitor their provision of prompt surgery. Clinical teams can log in and use the NHFD website's 'export' function to examine delays to prompt surgery at the individual patient level. Such cases should be reviewed in governance meetings so that a systems-based, structured approach can identify areas for improvement and redesign.



The [2022 facilities survey](#) highlighted operating theatre capacity as a major constraint and it is imperative that hospitals ensure that patients with a hip fracture secure appropriate priority, despite the unprecedented pressure on operating lists.



**Case study 1** Mrs X fell and broke her hip while putting out her washing. She is 83 and lives alone at home, supported by her family. She was taken to her local hospital and after a wait to get into the emergency department had a comfortable transfer up to the orthopaedic ward. She was seen by a junior surgeon and a doctor specialising in looking after older patients.

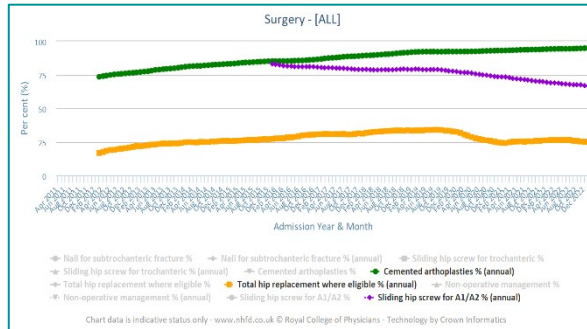
The hospital had recently carried out a quality improvement project as a result of which the morning session of their second trauma list had been designated for patients with lower limb fragility fractures. Mrs X was looked after by a consultant-led team and underwent a sliding hip screw fixation of her right trochanteric hip fracture the morning after her fall.

[Responses to our 2022 facilities survey](#) found that three-quarters of units (76%) prioritised patients with a hip fracture at the start of trauma lists (59% of all units used the [golden patient](#) system). Only 16% of units have dedicated hip fracture lists, but over half (55%) report cancelling elective lists to allow hip fracture surgery. All of these figures represent improvement since the NHFD's facilities survey in 2017.

## Appropriate surgery

Variability in implant use undermines effective care, and prevents consolidation of surgical learning curves and access to reduced tariffs associated with large-volume collaborative tendering.

The [2022 NHFD report](#) highlighted widespread variation in practice for trochanteric fractures, and the [surgery run chart](#) shows that this trend continues, despite the attention of the [GIRFT](#) initiative.



### 1.6 Surgical procedures [changes in NICE update 2023]

1.6.3 Consider total hip replacement rather than hemiarthroplasty for people with a displaced intracapsular hip fracture who:

- were able to walk independently out of doors with no more than the use of a stick and
- do not have a condition or comorbidity that makes the procedure unsuitable for them and
- are expected to be able to carry out activities of daily living independently

1.6.5 Hospitals should aim to use a single type of cemented femoral component for hemiarthroplasties as standard treatment for displaced intracapsular hip fracture management.

1.6.6 If equivalent cemented femoral component designs are available, organisations should take into account overall costs, including training needs, and how familiar the team is with the component.

1.6.7 Record long-term data on hemiarthroplasties, including patient-reported outcomes and adverse events, for submission to a national registry.

1.6.9 Use extramedullary implants such as a sliding hip screw in preference to an intramedullary nail in people with trochanteric fractures above and including the lesser trochanter (except reverse oblique).

The [2023 NICE guideline update](#) includes several significant recommendations based on stakeholder feedback.

Classification of fracture types has been collapsed to simplify application of device to fracture.

All fractures above the line of the lesser trochanter should be managed with a sliding hip screw construct.

NICE recommends that other fractures, including those below the lesser trochanter or in a reverse oblique pattern, may be considered for an intramedullary device.

The NICE guidelines also changed in respect of intracapsular fractures, introducing scope for surgeons'

assessment of predicted performance at 2 years to influence the choice of arthroplasty.

This is a more subjective approach than the 2011 and 2016 guidelines, and cannot be directly monitored by the NHFD, but units are encouraged to continue assessing their performance against the NHFD's [surgery run chart](#), [KPI 3 caterpillar plot](#) and [KPI 3 run chart](#). These will allow teams to see how local practice changes in response to the new NICE guidance, just as these resources allowed teams to monitor changes in practice following the publication of the [HEALTH study](#) in 2019, and further changes in response to the COVID-19 pandemic.

We used a [case study \(appendix 1\)](#) to highlight how surgery for a single individual might differ in different hospitals.



**Case study 2** Mrs Y broke her right hip at church. She used to walk without sticks, but recently had leg pains due to problems with her arteries, and wear and tear in her back. She is 79 and had recently moved into a supported living environment. She was placed onto a designated fragility fracture operating list for consultant-led surgery the morning after her fall.

Her surgeon spent time explaining the two operations she might have, either a 'full' or a 'half' hip replacement, and considered her deteriorating function and reflected on the 2023 update of NICE guidelines. Following discussion, Mrs Y and her surgeon decided that the 'half' hip replacement was the more appropriate. Her surgeon performed this procedure using a specially designed implant known to have good results over time.

Local governance meetings should audit theatre data quality if this is reliable, and deviation from specific NICE guidance should be addressed as part of a local QI initiative.

Clinical leads can log into the NHFD website (or allow others 'read only' access) and look at individual patients' data using their local '*Fracture by surgery*' chart.

This cross-tabulation will highlight areas in which local surgical practice for different fracture types is inconsistent with NICE recommendations – ideal topics for discussion and QI work.



## Quality improvement focus 4

NHFD 2023

### Ensure that patients are ready to get up by the day after their operation

- Benchmark performance on [KPI 4: Out of bed by the day after surgery](#)
- Benchmark performance on [KPI 5: Not delirious on postop screening](#)
- Use a systems-based, structured approach to identify areas for improvement and redesign
- Consider developing a care bundle for patients leaving theatre recovery

## Physiotherapy

Our 2018 [Physiotherapy Hip Fracture Sprint Audit](#) stimulated service change and led to the [Chartered Society of Physiotherapy](#) establishing [hip fracture standards](#). [Work using NHFD data](#) has shown [provision of weekend physiotherapy](#) to be associated with 2.3 fewer days in hospital in the year after hip fracture, and cost savings of £676 per patient.

Seven-day physiotherapy provision has improved from 62.7% of units in 2017 to 71.3% in 2022, with similar figures for improvement in the proportion of hospitals able to provide rehabilitation to people after discharge back to their original care home. In spite of this improvement in physiotherapy provision, [KPI 4: Getting patients out of bed by the day after surgery](#) fell slightly from 81% to 80% over 2022, and [KPI 4 in different hospitals](#) varied enormously from 50% to 100%.

It is rare for physiotherapy staff issues to explain why patients are not achieving the first step in their rehabilitation; the explanation usually lies in other peri- and immediate postoperative issues, shown in this table of data for the whole NHFD (figures that are unchanged since 2021).

Up day 1 post-op?	Yes	Why not?
With physiotherapist	75%	
With other ward staff	2%	
No - lack of staff or other resources		1%
No - patient too agitated or confused		4%
No - symptomatic hypotension		3%
No - inadequate post-op. pain control		3%
No - other documented contraindication		5%
No - other		8%

Hospitals that performed poorly on [KPI 4](#) should review their practice by logging in to the website, where they can explore the reasons for individual patients being unable to get up on day 1, making the most common factors a focus for a local QI project.

## Delirium prevention

The [NICE delirium guideline](#) was updated in January 2023. Delirium is entwined with mobilisation, as the commonest reason for a patient being unable to get up is that they were too agitated or confused. Hospitals with significantly poor figures for [KPI 5: Not delirious on postoperative screening](#) should review how they support patients with dementia and their strategies for delirium prevention. They should review the landmark [randomised controlled trial of delirium prevention](#), and use its table of recommendations as a checklist against which to compare the care provided in their own unit.

## 'Ready to return from recovery'

Close attention to blood pressure, fluid management and postoperative pain can help avoid postoperative delirium and improve early postoperative mobilisation. As a minimum, there should be a prompt for anaesthetists to pass on their specialist understanding of individual patients' needs to help in optimising pain control, fluid management and delirium prevention, so that patients are ready to get up the next day.

"Ready to leave recovery" – Anaesthetist's post-op. instructions	
Pre-op systolic BP = .....	<b>Transfusion plan</b> The average fall in Hb is over 20g/l after hip fracture
Post-op target systolic BP = .....	Pre-op Hb = ..... Intra-op blood loss = .....
<b>Given this patient's usual BP, surgery and post-op. target BP</b>	Post-op / recovery Hb = .....
<input type="checkbox"/> I have prescribed IV Hartmann's at: ..... ml / hour	<b>To ensure an Hb &gt;90 g/l tomorrow morning</b>
<input type="checkbox"/> NEWS chart has been adjusted appropriately	<input type="checkbox"/> I have requested a blood post-op. transfusion of ..... units
<b>Post-op. bloods</b> Please check tonight <input type="checkbox"/> tomorrow morning <input type="checkbox"/>	
<b>Intra-operative FIB nerve block</b> Time: .....	Reason if not done: .....

The NHFD has example postoperative care bundles to help improve postoperative pain control and fluid management and help prevent delirium. Teams wishing to improve their performance in KPI 4 and KPI 5 should look at examples of these that are available in the new [NHFD Resources](#) and make this a focus for local QI work.

## Quality improvement focus 5

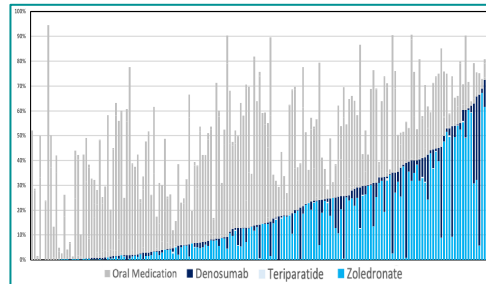
NHFD 2023

### Ensure that patients are supported to receive bone protection

- Benchmark performance on [KPI 7: Bone protection at 120 days follow-up](#)
- Log in to review local bone treatment cross-tabulation
- Log in to export results of 120-day follow-up of oral bone protection
- Consider the development of a protocol for injectable bone treatment

## Bone-strengthening treatment

In both 2021 and 2022, over two-thirds of people either started bone-strengthening treatment (52%) or were referred for a bone scan or outpatient review (17%). In 2022, the proportion starting oral treatment fell from 34% to 30%.



Without active support, most patients will discontinue oral forms of treatment, so it is encouraging that more hospitals are using outpatient follow-up to help patients continue on bone protection (55% in 2021, increasing to 65% in 2022). However, only 23% of patients were actually followed up at 120 days. The best-performing units (Royal Devon and Exeter, Ysbyty Gwynedd, Queen Alexandra, Portsmouth and Royal Preston hospitals) recorded follow-up of bone treatment for over two-thirds of patients, but 52 other units (30%) followed up none of their patients.

## Staying on bone treatment

In 2021, the NHFD introduced a new [key performance indicator \(KPI 7\)](#) specifically designed to reduce this variation in performance. KPI 7 measures the proportion of people known to be on bone protection 120 days after a hip fracture, but it was designed as a way of encouraging teams to improve their use of injectable therapy.

As we had hoped, [KPI 7](#) improved from 29% in 2021 to 35% in 2022. This reflected a switch from oral to injectable bone treatment. Use of injectable treatments increased from 17% in 2021 to 21% in 2022, and use of intravenous zoledronate (IV Zol) increased from 12% to 16% of patients over the same period.

## Reviewing local performance

We recommend that clinical leads log in to the NHFD website every quarter to benchmark their performance and examine areas for improvement.

They should (a) view their local cross-tabulation of bone treatment, and (b) export the results of 120-day follow-up for their own patients.

## Developing a protocol for injectable bone treatment

The change in approach to bone protection that the NHFD has documented in recent years is consistent with the recommendations in the 2021 update to the NICE-accredited UK [National Osteoporosis Guideline Group \(NOGG\) guidance](#).

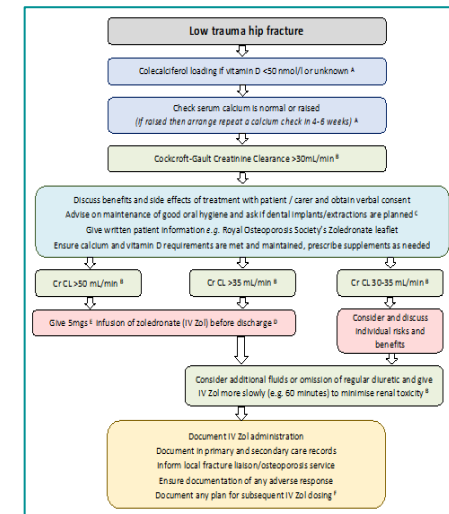
NOGG recommend IV Zol as a first-line bone treatment option after hip fracture and many hospitals have already adopted this approach, which is now a standard for the [Scottish Hip Fracture Audit \(SHFA\)](#). Improving the use of IV Zol is a way to ensure that more patients receive some form of lasting bone protection.

However, the complexity of the frail and older people who typically sustain a hip fracture makes it challenging to develop protocols for the safe and effective delivery of IV Zol, and uncertainty over the best approach to this this appears to explain the enormous variation in use of the treatment in different hospitals.

Questions over vitamin D status and replacement, renal impairment and the timing of IV Zol are often cited as reasons for units not treating inpatients following a hip fracture.

For this reason, the leads of the NHFD and the [Fracture Liaison Service Database \(FLS-DB\)](#) brought together a team of experts, including the hip fracture audit leads in [Scotland](#) and [Ireland](#), to develop a consensus on the safe and effective use of IV Zol.

A flowchart and explanation of how IV Zol might be used will be published in [Age and Ageing](#) this autumn.



## Health inequalities

Numerous factors affect patients' access to, engagement with and outcome after healthcare interventions. Our [2022 facilities survey](#) showed that 70% of hospitals provide printed information to patients and carers. However, in only 37% of cases was this in languages appropriate to the local population and in only 20% of cases was it in a format suitable for someone with visual impairment.

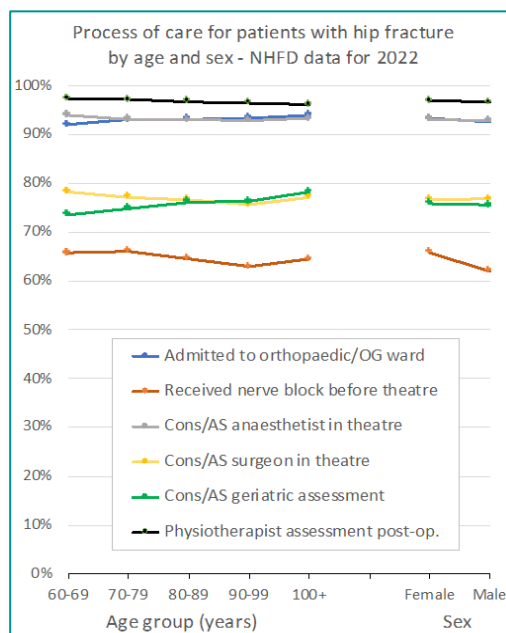
The NHFD has supported many published studies that have examined how [protected characteristics](#) (such as age and sex), socioeconomic status, physical and mental health affect quality of patients' care, recovery and outcomes.

Simple observations provide some reassurance about the organisation of care. NHFD data for 2022 (see figure) suggest that admission to an appropriate ward, access to nerve blocks, to perioperative care by a consultant or specialist doctor, and to postoperative assessment by a physiotherapist were not affected by a patient's age or sex.

However, equality of access to care is only part of the issue; frailer and more complex patients will have a greater need for senior expertise.

Older patients were more likely to receive perioperative care by a consultant or specialist geriatrician, but this was not true for the anaesthetist and surgeon in theatre.

It is more difficult to assess how such inequalities might affect patients' experience in hospital and the eventual outcome of surgery and rehabilitation. NHFD data have shown [socioeconomically deprived patients to be less likely to receive a total hip replacement](#) and that [Black patients are less likely to get up the day after surgery](#), and there is an obvious need for further work on these and other key questions:



- Older patients fare less well, but is this true if people differ only in their age?
- Men fare less well, but is this just because they're older and in poorer health?
- People from deprived socioeconomic backgrounds appear to fare less well, but is this still true if their age, health and ethnicity are taken into account?
- People with dementia fare less well, but does this reflect poorer health, as opposed to inappropriate decisions arising from the presence of dementia?

To understand such potential inequalities, the NHFD will need to examine each of these characteristics independently, and then feed these findings back to hospitals in a way that drives an appropriate healthcare improvement response.

## Patients with other types of femoral fracture

Since 2020, the NHFD has been collecting data on all forms of femoral fracture and administering NHS England's Best Practice Tariff (BPT) for people with fractures of the femoral shaft and distal femur.

Performance figures are given in the attached spreadsheets showing [KPIs for femoral shaft fracture](#) and [KPIs for distal femoral fracture](#).

	Periprosthetic femoral fracture (related to total hip/knee replacement)	Distal femur fracture	Femoral shaft fracture
2020	2,606 (2,411)	1,378	1,017
2021	3,509 (3,216)	1,737	1,114
2022	4,405 (4,071)	1,762	1,292



The total numbers of such fractures increase year on year as more complete data are submitted by different hospitals.

NHFD also collects data on patients with periprosthetic femoral fractures (PPFF), and [variation in services between centres](#) was examined in detail using the 2021 facilities survey. In addition, we used a [case study \(appendix 2\)](#) to highlight how the care of a single individual might differ in different hospitals. Figures for 2022 are given in this spreadsheet of [KPIs for PPFF](#).

## National Hip Fracture Database 2023 report

### Citation

Citation for this report: Royal College of Physicians. *15 years of quality improvement: the 2023 National Hip Fracture Database report on 2022*. London: RCP, 2023.

### References

The references for this and previous annual reports are all available in [the NHFD references](#).

A glossary of terms can be found [here](#).

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NHFD data collection webtool and performance tables are provided by Crown Informatics [www.crowninformatics.com](http://www.crowninformatics.com)

### Falls and Fragility Fracture Audit Programme

The NHFD is run by the Care Quality Improvement Directorate (CQID) of the Royal College of Physicians (RCP). It is part of the Falls and Fragility Fracture Audit Programme (FFFAP); one of three workstreams, alongside the Fracture Liaison

Service Database (FLS-DB) and National Audit of Inpatient Falls (NAIF). The programme is commissioned by the Healthcare Quality Improvement Partnership (HQIP) and works within a governance structure that includes the programme's Board, Advisory Group and Patient and Carer Panel.

### Healthcare Quality Improvement Partnership

The Falls and Fragility Fracture Audit Programme is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP). HQIP is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing and National Voices. Its aim is to promote quality improvement in patient outcomes and, in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales. HQIP holds the contract to commission, manage and develop NCAPOP, comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh government and, with some individual projects, other devolved administrations and crown dependencies [www.hqip.org.uk/national-programmes](http://www.hqip.org.uk/national-programmes)

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ISBN 978-1-86016-881-9

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