

National Audit of Inpatient Falls (NAIF) Audit report 2020



My mother's fall

Like most people, I'd always considered a hospital to be a place of safety. So, when my mother was admitted to A&E after breaking her hip, I took it for granted that she'd be in safe hands, and that staff would do everything possible to make her better.

However, as my mother's carer, I was also aware that as a 79-year-old woman with asthma and diabetes, her recovery might not be straightforward. But I never imagined – not even in my darkest dreams – that while she was in hospital and struggling to recover due to five cancelled operations, a deep wound infection and surgery to remove her failed hip joint, my mother would be allowed to fall out of bed.

Frail, delirious, barely able to communicate and with one leg now shorter than the other, my mother had been left lying on a bed with nothing to stop her from falling over the side. I was told that one of the nurses had forgotten to return the bed rails to their correct position.

I was horrified. The shock and distress my mother must have experienced was almost too painful to contemplate. And because she was never quite lucid enough to talk to me about what had happened, I never had the chance to listen, to comfort her and reassure her that I'd never let it happen again.

Miraculously, she hadn't sustained a further fracture. But after the catalogue of failures that marked my mother's care, her fall was the final blow that shattered my trust in the NHS.

Today, reading this first report from the new continuous National Audit of Inpatient Falls (NAIF), I'm in a very different place. No longer a single voice grieving over my mother's experiences, I feel privileged to be part of a national team that's driving improvement across a wide spectrum of care, from falls prevention to hip fracture care. And as the report confirms, change really is happening. All health boards in Wales and nearly all acute trusts in England are taking part in the audit. Completion rates for the first 8 months of 2019 are excellent. But there are still significant areas for improvement.

As chair of the Patient and Carer Panel for the Falls and Fragility Fracture Audit Programme (FFFAP) and from my own personal experience, I urge you to use this report to improve what you do to prevent falls and treat injuries when they occur. My hope is that anyone in a similar situation to me can feel confident that their loved one will be safe when they are in hospital.

Julia Ellis (chair of the FFFAP Patient and Carer Panel)

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Foreword

Picture the scene; indeed, many of us have been there. Busy ward, busy staff, sick patients ... a loud crash is heard in the next bay. You all rush to help but it's too late, and the patient is lying injured on the floor. The aftermath is fraught, particularly for the patient who is likely to be in pain, shocked and upset, but also for the ward team who wonder how they could have prevented this from happening. No one intended this to happen ... and yet it has, so perhaps the most positive thing that can happen now is to learn from this sad event and put sustained improvements in place to reduce the risks of another such incident happening again.

This first report of the new continuous National Audit of Inpatient Falls (NAIF) provides an excellent opportunity for organisations to examine in detail where they can improve; not only to prevent falls, but also to improve the care of those who do sustain injury and to ensure no delays to expert hip fracture care. For post-fall actions, this is the first time we have been able to look in detail at the care provided close to the fall event and see clearly where what happens in actuality may depart from policy and intention.

Participation in this audit has been high and should be applauded; this is testament to the commitment of organisations to want to make improvements.

This report confirms that patients who fall and fracture their hip in hospital are the 'oldest old' and the 'frailest frail' and perhaps challenges ideas about where injurious falls occur, with only 21% occurring in elderly care wards. It is therefore essential that all specialties caring for older people need to be fully signed up to falls prevention.

Worryingly though, this report found significant numbers of patients less likely to receive prompt surgery, who had a longer length of stay, and whose 30-day mortality was double that of non-inpatient hip fracture patients. Some of this may in part be due to complications relating to how ill these patients were at the time of the fall, but nonetheless this is concerning.

Other concerning findings relate to immediate post-fall care, which indicated significant issues with staff moving patients without fully assessing for injury, lack of appropriate safe lifting equipment and delays to medical assessment.

Not getting things right for this most vulnerable group of patients is a window into how well we manage all patients at risk of falls. If we can get it right for them, then getting it right for all patients at risk of falls will be easier.

Julie Windsor
Clinical Patient Safety Lead Medical Specialties and Older People
NHS England and NHS Improvement

Key messages

- > **Good participation:** All health boards in Wales and nearly all acute English trusts participated in the audit. This was the first time community, mental health and specialist trusts were fully included in this programme. The inclusion of all such trusts is encouraged in future.
- > **Excellent completion:** This new continuous system of audit is proven to be feasible, with excellent completion rates for the 901 cases captured in the first 8 months of 2019.
- > **The challenge of inpatient hip fracture:** Older people who sustain a hip fracture after a fall in hospital face obstacles including a longer wait for surgery, longer periods in bed after surgery and a greater risk of post-operative delirium.
- > **Poor outcomes:** Older people who sustain a hip fracture after a fall in hospital have significantly poorer outcomes, including a two-fold increase in risk of dying compared to those who fracture outside of hospital.
- > **Post-fall management:** Prompt checks for injury, use of flat lifting equipment and rapid access to medical assessment could improve the care and outcome for older people who sustain a hip fracture after a fall in hospital.
- > **Risk screening tools:** We found that 32% of trusts and health boards are still using risk screening tools to identify those at risk of falls, despite the fact that this is specifically **not** recommended by NICE ([CG161](#)).
- > **Areas for improvement:** There is variability in the availability of walking aids for newly admitted inpatients, and access to flat lifting equipment for those who have fallen.
- > **In 2020:** NAIF extended its approach to include older people who sustain any form of hip or femoral fracture after a fall in hospital and collects data on fall risk reduction activities to drive quality improvement measures to prevent inpatient falls.

Using the audit to improve practice

Gloucestershire Health and Care NHS Foundation Trust has seven community hospitals and we have registered for the National Audit for Inpatient Falls (NAIF) as a community trust. We chose to participate as we believed that it would support the current improvement work that we have been undertaking across our community hospitals.

The clinical specialist falls physiotherapists were the main data inputters, as each clinical specialist already supports the community hospitals in their locality with falls improvement work. The clinical specialist falls physiotherapists were not actively involved in investigating each injurious fall, as this was completed by the senior staff on the wards.

Once the lead clinician was alerted to a new patient, they identified which ward the patient was on when the injurious fall occurred and notified the ward that they would need to participate in the audit return. The clinical specialist falls physiotherapist would then work with the ward to complete the audit form and use it as an opportunity to look at current practice and identify gaps.

This work identified that our system of documenting post-falls assessments and interventions was seen as confusing, and had duplications which led to the wrong documents being completed (and sometimes gaps in documentation). It also highlighted that we needed a new process for post-falls management. Since the start of the audit we have made these changes and the staff report that the process is now clearer and easier to follow.

Julia Bradbury
Clinical specialist falls physiotherapist
Gloucestershire Health and Care NHS Foundation Trust



Recommendations

Future participation in NAIF

1. Ensure your trust or health board participates in NAIF by registering and providing facilities data.
2. Confirm the type of ward where the hip fracture occurred with the relevant trust or health board manager before submitting each case to NAIF.

Policies and procedures

3. Provide walking aids to all newly admitted patients who require one, with appropriate assessment being made available 7 days a week ([CQUIN CCG7](#)).
4. **Do not** use screening tools to identify those at high risk of falls. Instead everyone aged over 65, and others aged over 50 who may be at higher risk, should be offered a multi-factorial falls risk assessment (MFRA) ([NICE CG161](#)).

Leadership

5. All trusts and health boards should have a safety patient group which:
 - includes falls prevention in its remit
 - is overseen by a member of the executive and non-executive team
 - regularly reviews data on falls, harm and deaths per 1,000 occupied bed days (OBDs)
 - assesses the success of their practice against the trends in falls, harm and death rates per 1,000 OBDs
 - reports and discusses the above outcomes with the board.

Quality and safety assurance

6. Report all inpatient falls resulting in hip fracture as 'severe harm', regardless of circumstances and outcome, as recommended by the National Reporting and Learning System ([NRLS](#)).
7. Ascertain the gap between the number of reported falls and actual falls as an indicator of each trust and health board's reporting culture, to help interpretation of data on falls per 1,000 occupied bed days.

Care after an inpatient fall

8. Check older people who fall during a hospital stay for signs or symptoms of fracture and potential for spinal injury before they are moved ([NICE QS 86](#)).
9. Ensure that flat lifting equipment is available on all sites and is always used to move patients when a hip fracture is suspected, in order to avoid causing pain and/or further injury ([NICE QS 86](#)).
10. Include safe manual handling methods in a post-fall protocol that is followed for all people who fall during a hospital stay. Document the handling method used in the patient's records ([NICE QS 86](#)).
11. Assessment by a medically qualified professional should take place within 30 minutes of a fall where serious injury is suspected ([NICE QS 86](#)). In sites without access to medical cover, transfer to an emergency department should be arranged within 30 minutes ([NICE QS 86](#)).
12. Commence hip fracture management without delay. This may require the development of local policies that ensure expedited care for those who sustain a hip fracture following a fall in hospital.

National Audit of Inpatient Falls – the history

Falls are the most frequently reported incident affecting hospital inpatients, with 247,000 falls occurring in inpatient settings each year in England alone.¹ Reported falls among older patients are more likely to result in some degree of harm and, where harm does occur, it is three times more likely to be severe.¹ One such severe harm is hip fracture. It is the commonest reason for emergency surgery and injury related death in older people.²

Inpatient falls are costly, even where life-changing injuries are not sustained. Such events lead to increased length of stay, loss of confidence, restriction of physical activity, functional impairment, diminished independence and an increased risk of further falls. All of which affect patients' quality of life.

The evidence as to the best way to prevent inpatient falls is not yet conclusive.³ However, current best practice in the NICE clinical guideline *Falls in older people: assessing risk and prevention* (CG161) calls for a multifactorial falls risk assessment (MFRA) for all inpatients aged over 65 (and in those aged 50–64 who are clinically judged to be at risk) leading to interventions tailored to address identified risk factors.⁴

The first National Audit of Inpatient Falls (NAIF) was launched in 2015. This was a 'snapshot audit' of fall prevention activity in acute hospitals in England and Wales.

Data were collected on more than 5,000 inpatients aged over 65, collecting evidence of components of MFRA and linked interventions from clinical notes and bedside observations. The seven key performance indicators (KPIs) were:

- > assessment for the presence of delirium
- > measurement of lying/standing blood pressure
- > medication review

- > assessment of vision
- > a continence care plan
- > having a walking aid and care bell within reach.

Figure 1. Key performance indicators for 2015 and 2017 snapshot audits



Improvement activities were supported by the Royal College of Physicians (RCP) in the form of workshops and the development of tools to address areas of poor performance. (These included instructions for lying-standing blood pressure measurement and the 'Look Out' vision assessment tool).

However, 'snapshot audits' provide little drive for interim work on quality improvement, and a second round of data collection in 2017 found little or no difference in the national picture for the KPIs, as illustrated in Figure 1.⁵

In contrast, continuous data collection offers the potential to provide 'real-time' updates on performance that encourage teams to continuously re-evaluate and modify their practice.

For example, the continuous measurement of processes and outcomes by the National Hip Fracture Database (NHFD), has reduced time to surgery and improved access to geriatrician assessment (Figure 2) which has been associated with a steady decline in 30-day mortality (Figure 3).

Launching a new audit method

NAIF was relaunched as a continuous audit in January 2019.

It would not be feasible to collect data on all inpatient falls, and even less practical to collect information on all admissions aged over 65 (the age group for which all patients should have a multi-factorial fall risk assessment, and the cohort used in the previous snapshot audits).

The [National Hip Fracture Database](#) (NHFD), NAIF's sister audit within the RCP, already identifies whether any hip fracture occurs in an inpatient setting, and the next step has been to use this data to define the new NAIF cohort: inpatients with hip fracture (IHF).

NAIF's new approach has focused on the continuous audit of the care and management of patients who sustain a hip fracture in an inpatient setting.

The new process involves the identification of inpatient hip fractures by the NHFD.

The clinical lead registered for NAIF in the organisation where the hip fracture occurred is notified once a hip fracture is entered on to the NHFD and attributed to an inpatient fall. This process posed a challenge in configuring the database, since a patient's hip fracture may occur in a different trust or health board to that in which subsequent orthopaedic care is received.

After the NHFD assigns the trust or health board in which the fracture occurred, the falls clinical lead in that organisation is asked to confirm that the case was related to an inpatient in their organisation who had fallen and sustained an IHF. The falls team for that organisation then completes the dataset for the case. This process is illustrated in Figure 4.

Phase 1 of this new process started in January 2019, when a pilot dataset was launched, which was designed to collect key information about IHF cases and test the process of notifying local falls leads.

Figure 2. Effect of continuous data collection on process measures in the NHFD

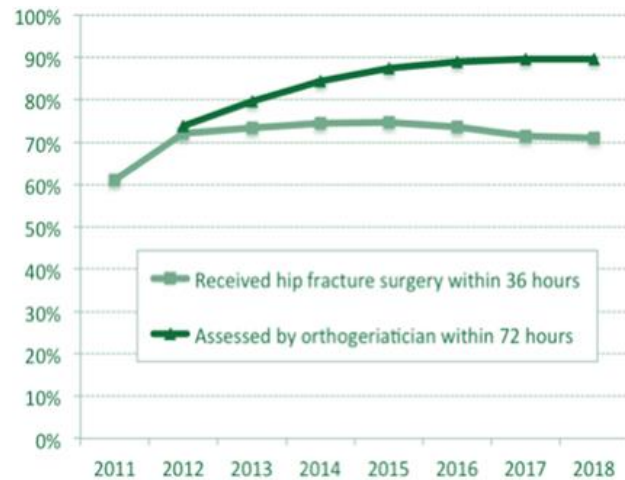
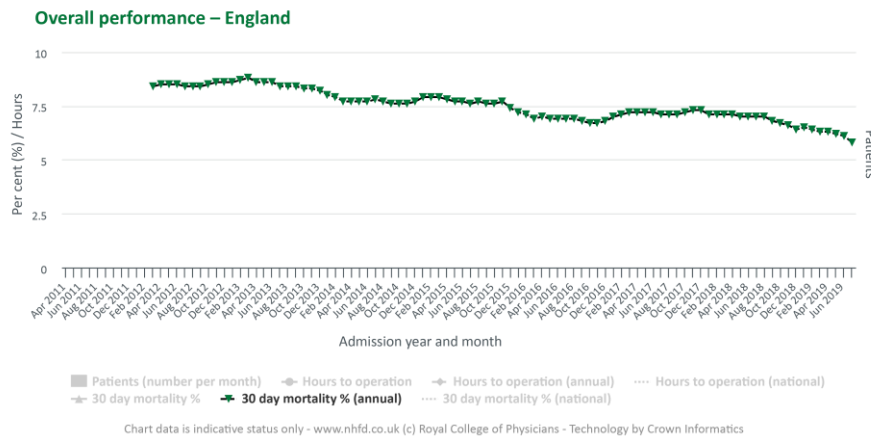


Figure 3. Effect of continuous data collection on outcome measures (30-day mortality) in the NHFD



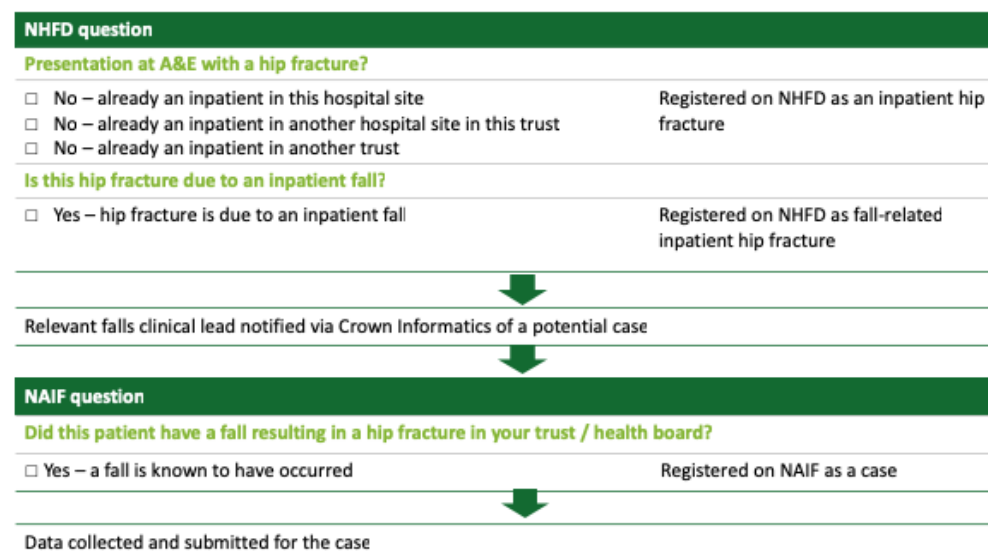
Phase 2 was launched in January 2020, with a more detailed dataset examining fall prevention activity for the time in the admission prior to the IHF. This data will be analysed in the next report published in 2021.

The key changes in the audit process for 2018–21 are illustrated below:

Key changes in the 2018–21 programme

- > Data to be collected on a continuous year-round basis as cases occur for each patient who sustains an inpatient hip fracture (IHF) in the organisation.
- > Fall prevention management to be audited only in patients who fracture their hip in an inpatient setting and not any other groups.
- > All inpatient settings are now eligible to participate. Community, specialist and mental health trusts are invited and encouraged to participate. The 2015 and 2017 snapshot audits focused on acute settings but in 2017, community trusts with an interest were invited to take part.
- > Data collection has been extended to include immediate post fall management.
- > Data will be linked to NHS numbers and cases will be triggered when the hip fracture is entered onto the NHFD and attributed to an inpatient fall.
- > Facilities data will be collected once a year.

Figure 4. Illustration of the new process for generation of IHF cases.



First steps in a new audit – NAIF Phase 1

The aims of Phase 1 were to:

1. analyse data to compare processes and outcomes between inpatient and non-inpatient hip fractures in England and Wales in 2018.
2. engage trusts in England and health boards in Wales in this national audit, building participation from community and mental health providers.
3. test the feasibility of the system of identifying inpatient hip fractures on NHFD and notifying NAIF clinical leads to complete data collection.
4. collect information about trust and health board facilities with respect to fall prevention and management.
5. collect data on circumstances of the fall and post fall management for patients who sustained an inpatient hip fracture between January and August 2019.



Methods and case ascertainment

The data used in this report came from three sources:

A. Analysis of 2018 data from the National Hip Fracture Database

National Hip Fracture Database (NHFD) data collected in 2018 were used to compare characteristics, performance and outcomes between patients who sustained an IHF and those who fractured elsewhere (non-IHF). For more information on the NHFD visit: www.nhfd.co.uk

B. The facilities audit

All trusts and health boards in England and Wales were invited to provide data about their organisation, including information about policies and protocols as well as leadership and service provision relating to falls management. Data submission took place between December 2018 and April 2019.

C. The clinical audit

The NHFD collects data on all hip fractures in people aged 60 or over, treated in English and Welsh hospitals. Cases were identified from patients entered onto the NHFD who had been deemed to have had a fall-related IHF. The falls clinical lead for the organisation where the fall occurred oversaw completion of the dataset. See Figure 4 for details of this process. Generation of clinical cases began on 1 January 2019, from when all fall-related IHFs entered onto the NHFD triggered the requirement of Phase 1 data collection. The data in this section of the report relates to patients who sustained a hip fracture in an inpatient setting in England and Wales between 1 January 2019 and 16 August 2019. Data collection following this process has continued. In January 2020, the Phase 2 dataset was introduced without any change to the process.

Findings of Phase 1

A. Inpatient hip fracture – analysis of 2018 NHFD data

What proportion of hip fractures occur in inpatients?

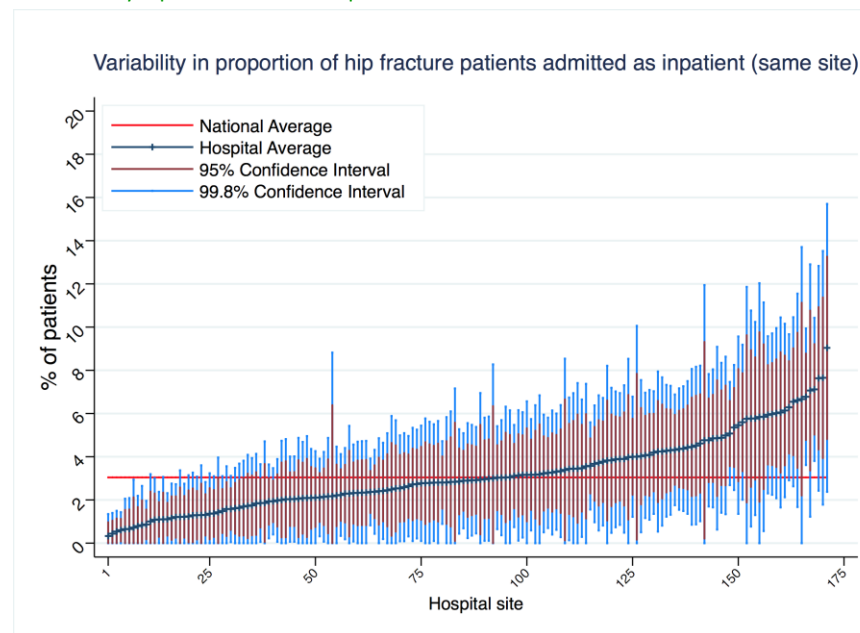
During 2018 the NHFD recorded 64,240 hip fractures in England and Wales. Of these, 2,439 (3.8%) occurred in people who were hospital inpatients.

The NHFD recognises that all hospitals are different, and that it is potentially misleading to compare the numbers of IHFs between different units. Instead the NHFD allows units to compare their current performance with previous years. This is the basis of the NHFD’s real time patient safety run-chart which provides a driver for local quality improvement work, allowing individual hospitals to monitor how this figure varies in response to local falls prevention initiatives (Figure 5 provides an example).

Figure 5. Proportion of all hip fractures presenting to a trauma unit that were the result of an inpatient fall.



Figure 6. Proportion of all the hip fractures presenting to a trauma unit which had been sustained by inpatients in that hospital.



Although it is inappropriate to compare such figures between different hospitals, it is useful to examine the extent of variation in these figures across the country (Figure 6). This caterpillar plot allows NAIF to identify units which are reporting unusual proportions of IHFs.

Units to the left in figure 6 are reporting significantly lower numbers of IHFs as a proportion of total hip fractures treated. NAIF will contact these units so that we and they can understand whether this reflects unusual casemix, poor ascertainment of inpatient falls, or successful falls prevention work from which others might learn.

Units to the right in figure 6 are treating significantly higher proportions of IHFs. NAIF will contact these units to make them aware of this finding, so that they can consider whether this reflects their particular casemix, problems with coding, or might suggest a need to review local falls prevention strategies.

What happens to people with an inpatient hip fracture?

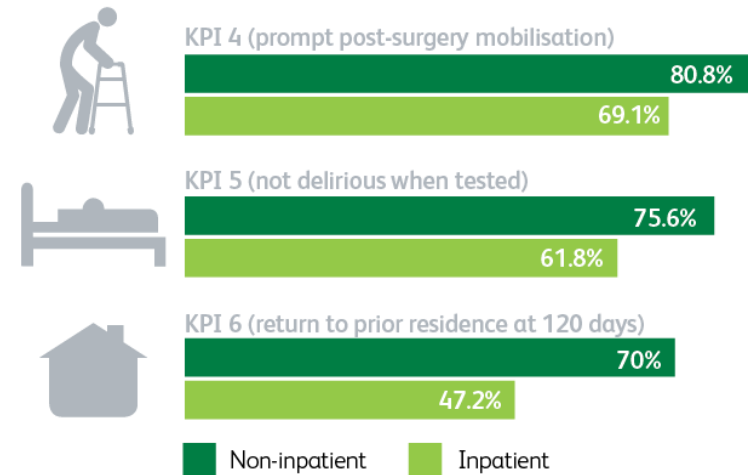
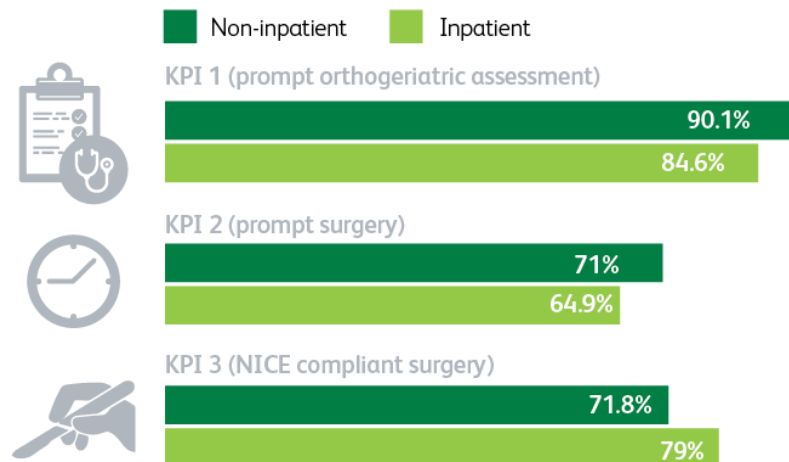
Inpatients and non-inpatients were the same age (mean 82 years) but 38.3% of IHFs were in men compared to 30.0% in non-IHFs. Men with hip fracture carry a significantly poorer prognosis.⁶

People with IHF were frailer with 37.0% (24.9% for non-IHFs) being unable to mobilise outdoors and 49.8% (34.7% for non-IHFs) having cognitive impairment (an abbreviated mental test score <7). Perhaps as a result, those with IHF were less likely to receive prompt surgery with just 64.9% (71.0% for non-IHF) having surgery by the next day as recommended by NICE.⁷

Those with IHF had a longer length of stay (median 15 days compared to 12 days for non-IHF), and a 30-day mortality figure that was over twice as high as non-IHF (12.7% compared to 5.8% for non-IHF).

Performance in all the NHFD key indicators was worse for IHF compared to non-IHF (see Figure 7).

Figure 7. Difference between KPIs in hip fractures sustained as a non-inpatient or an inpatient.



There are many possible reasons for the increased mortality rates following IHF. We have presented evidence that inpatients who have a hip fracture are frailer, more cognitively impaired and more likely to be male; all risk factors for poor prognosis. Good performance in processes associated with better outcomes such as prompt surgery and mobilisation are less likely to be achieved in this group.

Inpatients are likely to be more unwell at the time they sustain the fracture. This is supported with NHFD data about reasons for delay to surgery. More people with IHF (14.4%) compared to non-IHF (6.8%) had their surgery delayed because they needed medical review, investigation or stabilisation. These data highlight the harm associated with IHF and support a call to action to all organisations who provide inpatient care, to work to prevent such fractures and ensure excellent post-fall care when they do occur.

B. Facilities audit

Data for the facilities (previously referred to as organisational) audit were collected from each participating trust and health board. Organisations with more than one inpatient site were asked to collect data that reflected policies and activities in the whole trust / health board.

The purpose of Phase 1 of this new audit process was to test the feasibility of the new data collection processes, so there is only one key performance indicator in this report: participation in NAIF.

Participation in NAIF is defined as completion of the facilities audit and registration to receive clinical cases; reflecting the second aim of Phase 1 of NAIF: *'Engage trusts in England and health boards in Wales in this national audit, building participation from community and mental health providers.'* The facilities audit included questions about policies and procedures, leadership and quality assurance with respect to fall risk reduction and management.

'CEOs, medical directors and falls leads in all organisations with inpatients aged over 60 are encouraged to register with NAIF'

Key performance indicator 1 – participation in NAIF

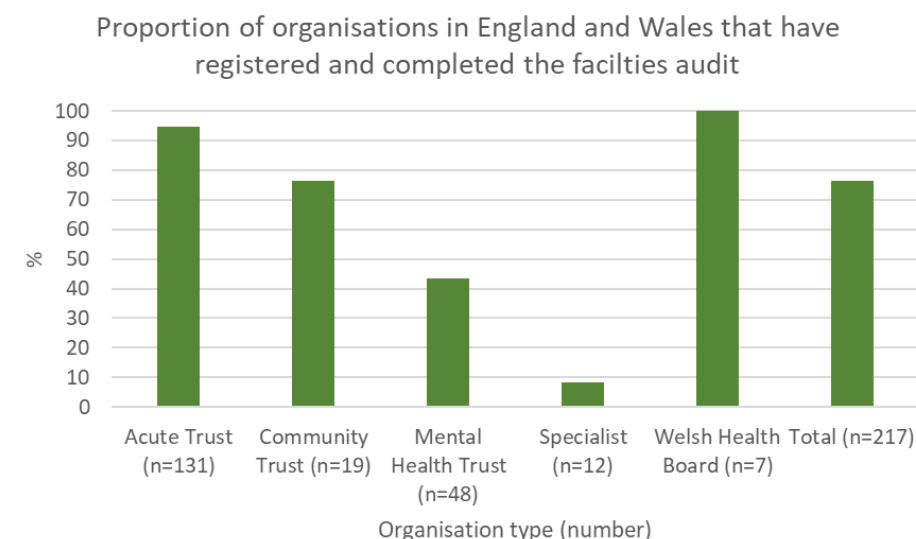
The previous snapshot audits in 2015 and 2017 only included acute trusts and health boards. In 2019 NAIF was extended to include community, mental health and specialist trusts. This is particularly important considering that higher rates of falls are found in community hospitals.¹

Of the 217 trusts and health boards eligible to participate in NAIF, 168 (77.4%) completed the facilities audit and have registered with Crown Informatics (webtool provider).

All Welsh health boards and most English acute trusts (94.7%) registered.

Just under half of English mental health (47.9%), 8.3% of specialist and 68.4% of community trusts also participated (see Figure 8). This is a hugely encouraging result, and all are to be commended for their participation and enthusiasm.

Figure 8. Participation in NAIF by organisation type.



Recommendation 1: Senior leaders

Ensure your trust or health board participates in NAIF by registering and providing facilities data.

NAIF aims to increase participation to 100% of acute, 90% of community and 80% of mental health trusts in 2020 and to 95% of community and mental health trusts in 2021.

Recommendation 2:

See Recommendation 2 (p.17) for future participation in NAIF.

Facilities for the prevention and management of falls

Policies and procedures in trusts and health boards

Over three-quarters of trusts and health boards report using intentional rounding and safety huddles to prevent falls. Intentional rounding (IR), is 'a structured process whereby nurses carry out one to two hourly checks with every patient using a standardised protocol and documentation'.⁸ Safety huddles are 'a short multidisciplinary briefing, held at a predictable time and place, and focused on the patients most at risk'.⁹ There is no clear evidence that these interventions are effective in reducing inpatient falls,³ but their use appears to be widespread. Most health boards and trusts have written information about falls made available for patients and families.

Fall risk reduction policies and procedures 1

Proportion of organisations:



74%

Routine safety huddles which include discussion on falls



77%

Intentional rounding used to improve patient safety



89%

Written information about fall prevention available to patients and families

Nearly half of all trusts and health boards reported that they don't have a policy that ensures that all patients have access to walking aids on admission. A third (32.1%) reported using a screening tool to identify

people at high risk of falls, despite NICE clinical guideline 161 specifically advising against the use of such tools.⁴ The same NICE guideline recommends that all inpatients aged over 65 should be considered at high risk and be offered a multi-factorial fall risk assessment (MFRA) and screening should not be performed. For more information on MFRA visit: <https://www.rcplondon.ac.uk/projects/outputs/falls-prevention-hospital>

Nearly a third of trusts and health boards reported having sites without access to the flat lifting equipment that is required to safely move a patient with a suspected hip fracture from the floor. Moving a patient with other equipment, or none at all, will cause unnecessary pain and could complicate the hip fracture.

Fall risk reduction policies and procedures 2

Proportion of organisations:



44%

where access to walking aids is **unavailable** for newly admitted patients 7 days a week



32%

who use a screening tool to identify those at high risk of falls – **against NICE (CG161) guidelines**



31%

without access to flat lifting equipment on all sites

Recommendation 3: Clinical teams

Provide walking aids to all newly admitted patients who require one, with appropriate assessment being made available 7 days a week ([CQUIN CCG7](#))

Recommendation 4: Clinical teams

Do not use screening tools to identify those at high risk of falls. Instead everyone aged over 65, and others aged over 50 who may be at higher risk, should be offered a multi-factorial falls risk assessment (MFRA) ([NICE CG161](#)).

Leadership

Most trusts and health boards have a director with responsibility for falls, but 10.4% reported that they still do not. Most organisations have multidisciplinary falls working groups that discuss falls incidence. It is important that there is oversight of the patterns of falls and injuries and an evaluation of the efficacy of improvement measures within an organisation.

Executive responsibility for falls

Proportions of organisations with:



14%

No executive director with responsibility for falls



38%

No non-executive director with responsibility for falls



10%

No executive responsibility for falls (either executive or non-executive)

MDT falls working group



87%

Multi-disciplinary falls working group that meets at least 4 times a year



98%

Incidence of falls routinely presented and discussed at falls working group*



88%

Falls incidence presented as falls per 1000 occupied bed days*

* Proportion of those who have a falls working group

Recommendation 5: Senior leadership

All trusts and health boards should have a patient safety group which:

- includes falls prevention in its remit
- is overseen by a member of the executive and non-executive team
- regularly reviews data on falls, harm and deaths per 1,000 occupied bed days (OBDs)
- assesses the success of their practice against the trends in falls, harm and death rates per 1,000 OBDs
- reports and discusses the above outcomes with the board.

Quality and safety assurance

Despite recommendations that hip fractures are routinely recorded as severe harm,¹⁰ 22.0% of participating organisations decide the level of harm based on the circumstances and outcome for each case. Less than one-third of trusts and health boards use a system for assessing gaps in falls reporting and less than half have audited the appropriateness of bed rails in the past 12 months.

Proportion of organisations where:



22%

The level of harm attributed to an inpatient hip fracture on the National Reporting and Learning System (NRLS) is decided depending on circumstances



67%

There is no system used for assessing the extent of the gap between actual and reported falls



43%

An audit of the clinical appropriateness of bedrail use for individual patients has been undertaken in the past 12 months

Recommendation 6: (Senior leadership and clinical teams)

Report all inpatient falls resulting in hip fracture as ‘severe harm’, regardless of circumstances and outcome, as recommended by the National Reporting and Learning System (NRLS)

Recommendation 7: (Senior leadership)

Ascertain the gap between the number of reported falls and actual falls as an indicator of each trust and health board’s reporting culture, to help interpretation of data on falls per 1,000 occupied bed days.

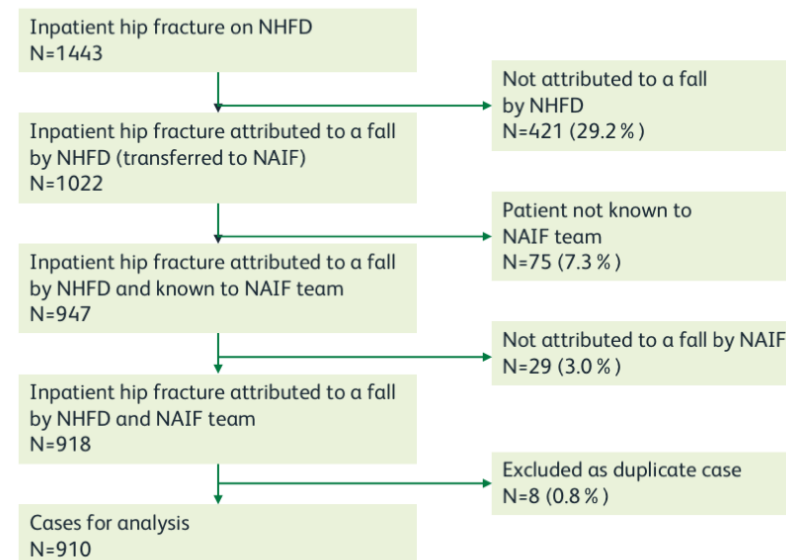
c. Clinical data

How many people sustain a hip fracture after an inpatient fall?

Between January and August 2019, a total of 910 inpatient falls that resulted in hip fracture were identified and analysed in this report. This figure would equate to 1,285 such events in England and Wales each year.

In this pilot phase, a substantial number (29.2%) of IHFs were not referred to NAIF. They were excluded from analysis as trauma unit staff coding data for the NHFD had not coded them as an IHF following an inpatient fall (see Figure 9). This is a surprising figure, considering 95% of hip fractures occur as a result of a fall,¹¹ and may indicate a weakness in the data being passed to trauma unit staff when a patient is referred on with a hip fracture. A smaller number (3%) of IHFs were not attributed to a fall by NAIF. Some of these may have occurred without a fall or been related to a fall prior to hospital admission. However, it is possible that the fall that caused the IHF was not reported or recorded. These questions will be investigated further in the 2020 data.

Figure 9. Identification of cases.



The feasibility of the new system for alerting the correct organisation for NAIF data collection appears to be satisfactory, with less than 10% of patients not known to the NAIF team to which they were directed. Further work exploring the provision of feedback on incorrect attribution to the NHFD inputting teams will be undertaken in 2020.

Data completeness

Of the 910 cases, data for all but one case were completed in full. (Data was missing from just one question in this case). Therefore only 0.1% of data was missing. This confirms the feasibility of the dataset as related to the third aim of phase one: *‘Test the feasibility of the system of identifying inpatient hip fractures on NHFD and notifying falls leads to complete data collection.’*

Where did the fall happen?

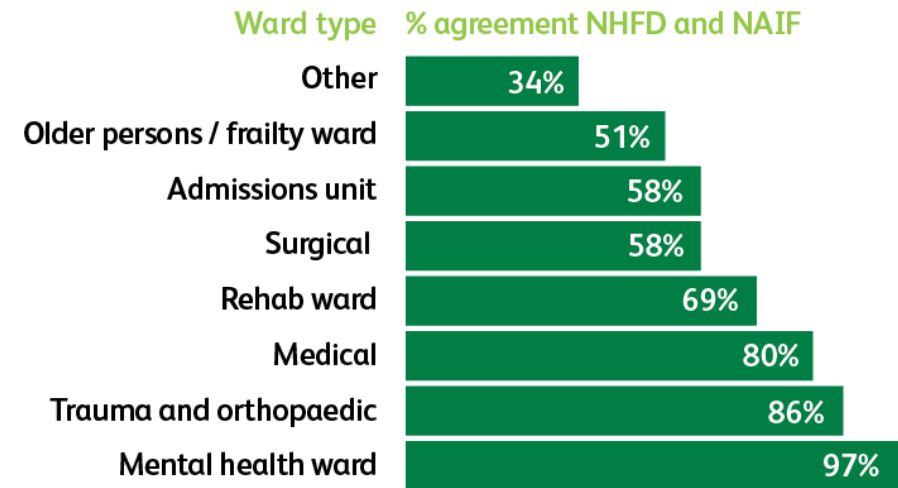
Both NHFD and NAIF collected data on location of the fall that caused the IHF and there was relatively poor concordance in their coding of the type of ward in which the IHF occurred. Agreement between the databases was more reliable for some more easily identifiable ward types such as mental health units and trauma and orthopaedics (figure 10).

These results suggest that trauma unit and NHFD staff information about the type of referring ward may be limited. For subsequent analyses in this report, the NAIF data will be used, and NHFD staff will not collect these data in 2020.

Recommendation 2: (Future participation in NAIF): Those inputting data

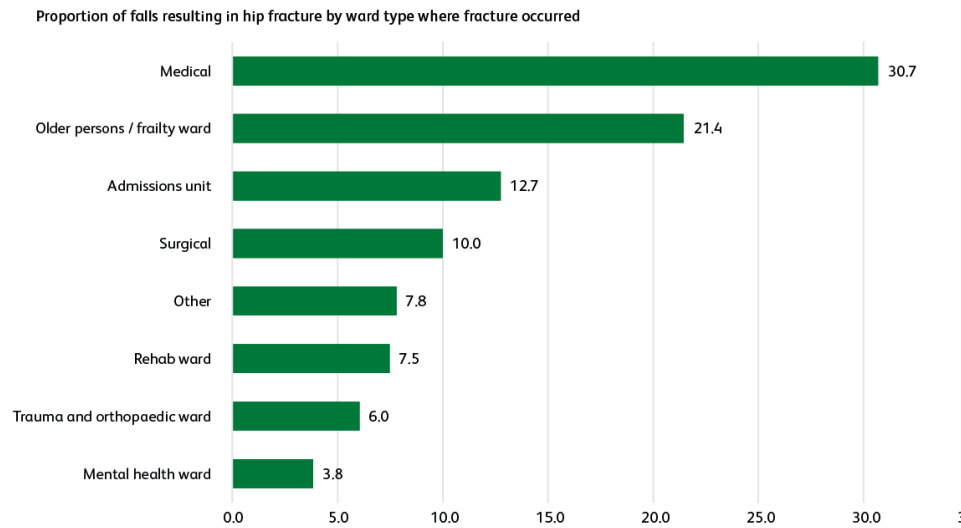
Confirm the type of ward where the hip fracture occurred with the relevant trust or health board manager before submitting each case to NAIF.

Figure 10. Agreement between NAIF and NHFD on ‘ward type’.



Most fall-related hip fractures occurred on medical wards. Considering half of those who sustain an inpatient hip fracture have cognitive impairment, only 21.4% occurred on an older person’s ward where staff are more likely to be trained in and understand how to care for older people with dementia and delirium. It is clear that no ward type is immune from hip fracture (see Figure 11).

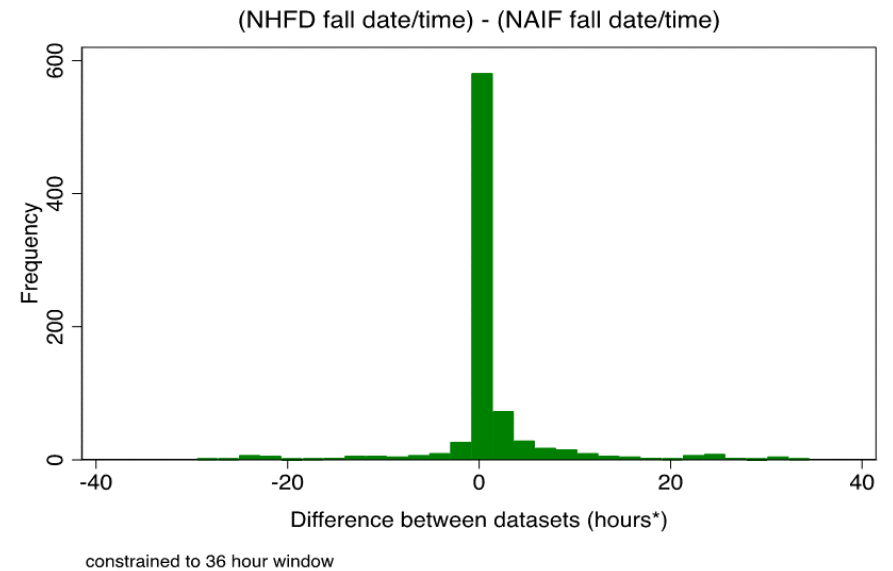
Figure 11. Ward type where hip fracture occurred.



When did the fall happen?

Data on the time of the fall were collected by both NHFD and NAIF databases to compare for accuracy. In most cases the NHFD and NAIF datasets agreed about the time of the fall that resulted in the hip fracture. Where there was difference, there was a tendency for NAIF to report an earlier fall time than NHFD (Figure 12).

Figure 12. Agreement between NHFD and NAIF on time of fall.



NAIF teams would have better access to documented evidence for the time when a fall occurred, so the NAIF record has been used in our analyses. From January 2020, these data will only be collected by NAIF.

Numbers are too small to make any firm conclusions about patterns for time of hip fracture. There didn't appear to be a weekend effect, but 39.7% of IHFs happened between midnight and 7am (Figure 13).

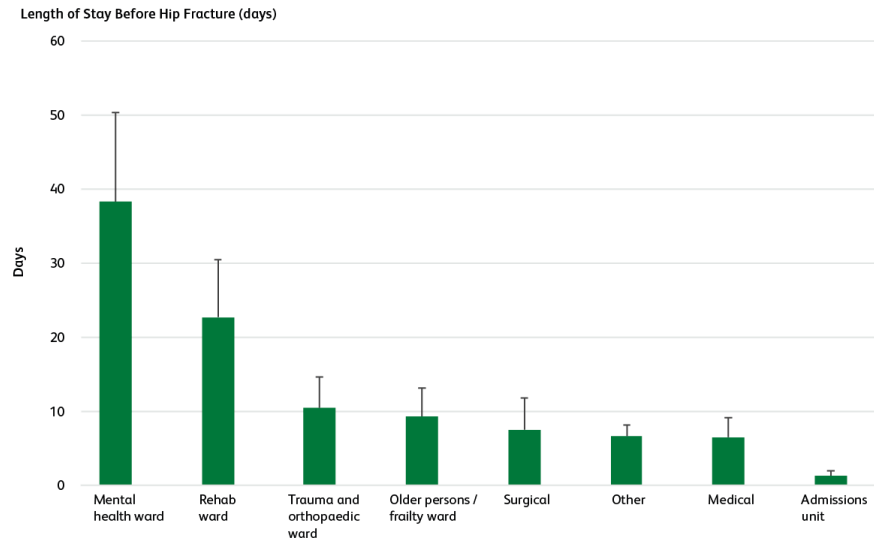
Figure 13. Heat map indicating percentage of hip fractures at each time block.

Day of the week	% per day	12-3am	4-7am	8-11am	12-3pm	4-7pm	8-11pm
Sunday	13.8	2.5	2.1	1.6	3.2	2.3	2.1
Monday	15.4	2.5	3	1.5	2.7	2.2	3.4
Tuesday	14.5	2.3	3.7	0.9	2.6	2	3
Wednesday	13.3	3.3	2.9	1.2	1.5	2.5	1.9
Thursday	15.3	2.9	3.1	3.1	2.4	1.8	2.1
Friday	14.2	3.4	2.7	2	2.1	2.1	1.9
Saturday	13.5	2.6	2.7	1.9	2.3	2.4	1.5
TOTAL	100.0	19.5	20.2	12.2	16.8	15.3	15.9

How soon after hospital admission did the IHF happen?

The median time from when a patient was admitted to the time of the IHF was 7.0 days (IQR 2.3–18.9).

Figure 14. Length of stay before hip fracture by ward type.



IHF occurs in frailer patients who are likely to stay in hospital longer than average¹² but it also indicates that the risk of falling and fracture should not be discounted in patients close to discharge.

The point during a patient’s length of stay at which the hip fracture occurred varied depending on the type of ward. Settings with typically longer lengths of stay, such as mental health and community had a longer median admission before hip fracture (Figure 14).

Was the patient assessed immediately after the fall?

The following questions were based on NICE quality standard 86, numbers 4, 5 and 6.¹³

Was the patient checked for injury before being moved?

In more than half of cases no check for injury was made, or the patient was presumed not to have an injury before they were moved. This may have had an impact on the handling method chosen to move the patient from the floor, resulting in pain and worsening of the injury.

Proportion of patients who were checked for injury before being moved

Proportion of cases where:



45%
Check was conducted
and injury was suspected



20%
Check was conducted but
no injury was suspected



35%
No check was
documented

Recommendation 8: Clinical teams

Check older people who fall during a hospital stay for signs or symptoms of fracture and potential for spinal injury before they are moved ([NICE QS 86](#)).

Proportion of cases where:



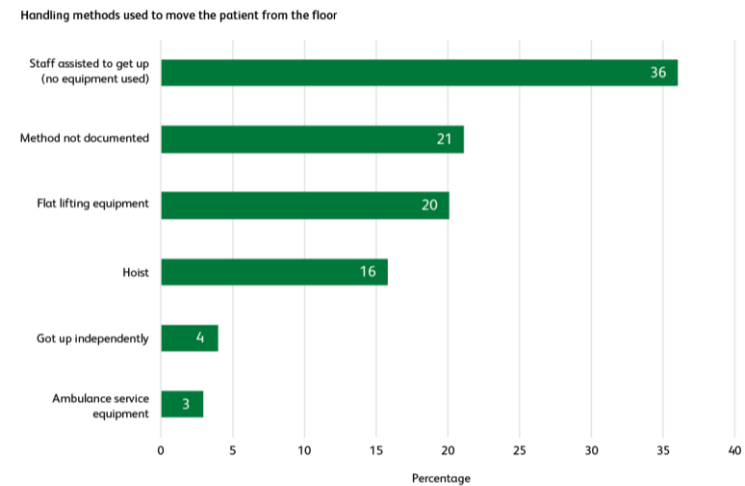
55%

Injury was not considered before movement from the floor

How was the patient moved from the floor?

Inappropriate handling methods risk worsening pain and the extent of the injury. The method most frequently reported for moving a patient from the floor following the IHF was staff assistance, where ‘no equipment was used’. Another 21.1% did not record the handling method (Figure 15). Only one-fifth (20.1%) of patients were moved with flat lifting equipment, which is the recommended method when hip fracture is suspected.

Figure 15. Method used to move the patient from the floor.



Recommendation 9: Senior leadership and clinical teams

Ensure that flat lifting equipment is available on all sites and is always used to move patients when a hip fracture is suspected, in order to avoid causing pain and/or further injury ([NICE QS 86](#)).

Recommendation 10: Clinical teams

Include safe manual handling methods in a post-fall protocol that is followed for all people who fall during a hospital stay. Document the handling method used in the patient’s records ([NICE QS 86](#)).

Who assessed the patient after the fall?

In just over half of cases (54.3%), the patient was assessed by a medically qualified professional within 30 minutes of the fall that caused the hip fracture. This assessment is necessary to ensure that the hip fracture is diagnosed and treatment started without delay, as recommended in the NICE quality standards 86.¹³

In some organisations there are non-medically qualified practitioners who perform such assessments out of hours. Where this is the case, NAIF teams were advised to only record timeframes for assessment by medically qualified professionals.

The only exception to this is in a setting with no access to 24/7 medical cover. In these cases, an assessment that resulted in the arrangement of transfer to an emergency department within the same timeframe was considered as compliant.

A further option to answer this question is provided in the 2020 audit to collect information about non-medically qualified practitioners' roles in this process.

Assessment by a medically qualified professional

Proportion of cases where:



54%

Assessment by medically qualified professional was undertaken within **30 minutes** (or ambulance transfer arranged)



42%

Assessment by medically qualified professional was undertaken within **12 hours**



4%

No assessment documented

Recommendation 11: Clinical teams

Assessment by a medically qualified professional should take place within 30 minutes of a fall where serious injury is suspected ([NICE QS 86](#)). In sites without access to medical cover, transfer to an emergency department should be arranged within 30 minutes.

How soon after the fall was hip fracture care started?

Delays to starting hip fracture care are associated with poorer outcomes.¹⁴ The median time from the fall that resulted in the IHF to the start of hip fracture care as recorded in the NHFD was **6.3 hours** (IQR 3.1–14.7).

Recommendation 12: Clinical teams and senior leadership

Commence hip fracture management without delay. This may require the development of local policies that ensure expedited care for those who sustain a hip fracture following a fall in hospital.

How good was overall care after the fall?

Poor assessment and identification of injury following IHF appears to have resulted in limited use of recommended 'flat lifting' handling methods. However, the facilities data suggests there may also be issues with access to flat lifting equipment in some organisations.

Delay to medical assessment is likely to result in delay in diagnosis and hip fracture care. We have highlighted the poor outcomes specific to IHF. There is potential to improve these three facets of post fall management and in doing so, improve outcomes for this highly vulnerable group of patients.

Figure 16. Compliance with NICE quality standards 4, 5 and 6: QS86.

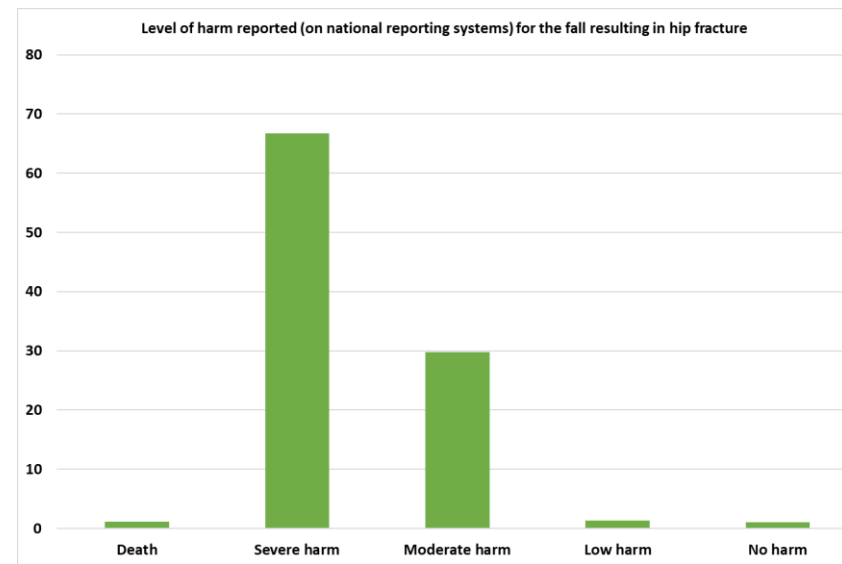


What level of harm was reported after the fall?

Most (66.7%) of the falls resulting in hip fracture were recorded on the National Learning and Reporting System as resulting in severe harm.¹⁰ However, a substantial number were classified as moderate (29.8%), low harm (1.3%) and no harm (1.0%) (Figure 17). These data mirror the findings in the facilities audit regarding policies for reporting degree of harm.

A hip fracture is a serious injury associated with high levels of mortality and morbidity. It also requires the patient to undergo a surgical procedure. Even if a patient returns to pre-fracture function, these factors would indicate that severe harm had been experienced.

Figure 17. Degree of reported harm.



Phase 1 – summary of findings

People who fall as an inpatient may suffer other injuries, but hip fracture is by far the most significant and is of itself a major public health challenge, and one that exemplifies the considerable consequences faced by anyone who falls in hospital.

The first report of the continuous NAIF focused on patients in England and Wales who sustained an IHF between January and August 2019. Data on organisational policy and practice with respect to inpatient fall prevention and management were collected via a facilities audit, and the data from 2018 NHFD were explored to identify differences between IHF and non-IHF in processes and outcomes.

Mortality at 30 days is twice as high in IHF compared to non-IHF. Some of this variation may be explained by inadequate post-fall management and delayed access to hip fracture care. Analysis of the 2018 NHFD data indicates that there is in fact a delay in time to surgery, as well as worse outcomes relating to post-operative mobility, delirium and length of stay. These conclusions are corroborated by the findings on the post-fall management in this first set of clinical data.

On a positive note, there was full participation from Welsh health boards, very good participation from English acute trusts, and good engagement from English community trusts. An impressive proportion of English mental health trusts registered, despite no previous involvement with NAIF. The submission of cases was also excellent, with almost total completion of data collection. The facilities audit demonstrated some areas in which good practice is widely observed: multidisciplinary falls steering groups and provision of written information about falls being two examples.

The data presented in this report provide ample opportunity to identify areas in which to enhance the quality of care for people who sustain an IHF. To improve speed of access to appropriate hip fracture care, quality improvement projects might look, in the first instance, to improving compliance with standards 4, 5 and 6 or the NICE quality standard 86. This report includes an example of how this might work in practice.

Next steps – NAIF Phase 2

Phase 2 data collection

The Phase 2 clinical dataset was launched in January 2020, collecting detailed information on the fall risk reduction activities undertaken prior to the IHF, the circumstances surrounding the fall and post-fall care. Phase 1 questions will continue to be used, so as to ensure consistency in analysis.

Measurement of inpatient hip fracture rate in each trust / health board

In 2020, the facilities audit will collect occupied bed days (OBD) data so that we can calculate the rate of hip fracture per 1,000 occupied bed days in each trust/health board, with age and sex data collected to enable stratification of rates. IHF rates will be presented to trusts and health boards in the 2021 report.

Expansion to include all femoral fractures

From April 2020 NHS England will extend Best Practice Tariff to patients with injuries at all sites within the thigh bone, the shaft and the part above the knee. If these follow an inpatient fall these patients will be captured by NHFD. This will increase the cases examined by NAIF by roughly 10%.

Future KPIs

For the 2021 report, we anticipate extending the key performance indicators to include compliance with standards 4, 5 and 6 of NICE quality standard 86. Participation will remain a KPI for the next report.

Access to real-time data

During 2020, we plan to develop capability to enable viewing of up-to-date metrics on NAIF KPIs and outcomes. Going forward, we also plan to develop immediate 'case-level' feedback to assist with organisations' response to each IHF.

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Falls and Fragility Fracture Audit Programme

The National Audit of Inpatient Falls (NAIF) is run by the Care Quality Improvement Department (CQID) of the Royal College of Physicians (RCP). It is part of the Falls and Fragility Fracture Audit Programme; one of three workstreams alongside the Fracture Liaison Service Database (FLS-DB) and the National Hip Fracture Database (NHFD). The programme is commissioned by the Healthcare Quality Improvement Partnership (HQIP).

Healthcare Quality Improvement Partnership

The National Audit of Inpatient Falls 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 to increase the impact of clinical audit, outcome review programmes and registries on healthcare quality in England and Wales. HQIP commissions, manages and develops the National Clinical Audit and Patient Outcomes Programme (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

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