



Royal College  
of Physicians

Falls and Fragility Fracture  
Audit Programme (FFFAP)

# National Hip Fracture Database (NHFD) annual report 2016



In association with:



Commissioned by:

## National Hip Fracture Database annual report 2016

This report was prepared by the members of the National Hip Fracture Database (NHFD) workstream delivery team:

Chris Boulton, FFFAP programme manager  
Tim Bunning, Crown Informatics  
Viv Burgon, NHFD project coordinator  
David Cromwell, Royal College of Surgeons of England, Clinical Effectiveness Unit  
Antony Johansen, NHFD clinical lead, orthogeriatric medicine  
Sunil Rai, FFFAP data coordinator  
Roz Stanley, operations director, Clinical Effectiveness and Evaluation Unit, Royal College of Physicians  
Carmen Tsang, Royal College of Surgeons of England, Clinical Effectiveness Unit  
Rob Wakeman, NHFD clinical lead, orthopaedic surgery

Data analysis by the Royal College of Surgeons of England, Clinical Effectiveness Unit and Royal College of Physicians, FFFAP data coordinator

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

### Falls and Fragility Fracture Audit Programme

The NHFD is commissioned by the Healthcare Quality Improvement Partnership (HQIP) and managed by the Clinical Effectiveness and Evaluation Unit (CEEU) of the Royal College of Physicians (RCP) as part of the Falls and Fragility Fracture Audit Programme (FFFAP) alongside the Fracture Liaison Service Database (FLS-DB) and Falls Pathway workstream. FFFAP aims to improve the delivery of care for patients having falls or sustaining fractures through effective measurement against standards and feedback to providers.

### Healthcare Quality Improvement Partnership

The Healthcare Quality Improvement Partnership (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, and in particular to increase the impact that clinical audit has on healthcare quality in England and Wales. HQIP hosts the contract to manage and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP). Its purpose is to engage clinicians across England and Wales in systematic evaluation of their clinical practice against standards and to support and encourage improvement in the quality of treatment and care. The programme comprises more than 30 clinical audits that cover care provided to people with a wide range of medical, surgical and mental health conditions.

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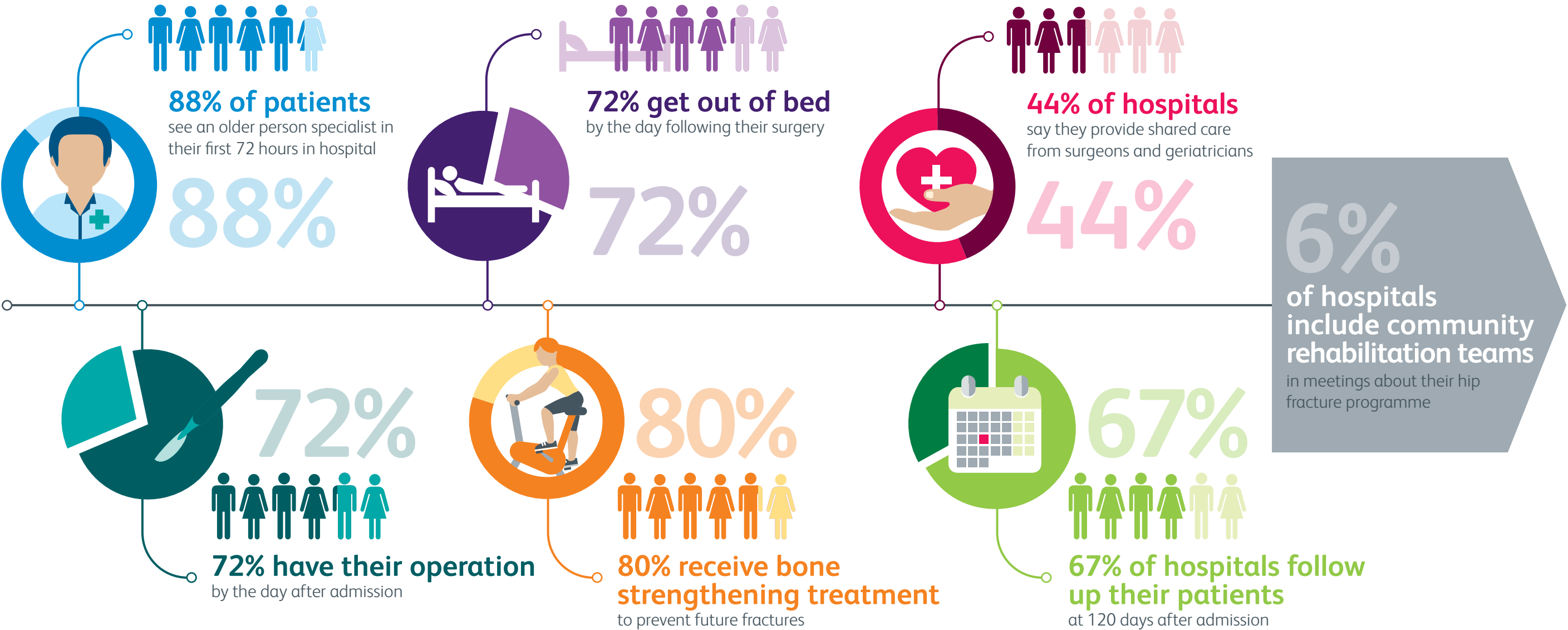
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Royal College of Physicians  
11 St Andrews Place, London NW1 4LE  
[www.rcplondon.ac.uk](http://www.rcplondon.ac.uk)

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# What a hip fracture programme can deliver

Hip fracture is the most common serious injury in older people. Hip fracture patients take up 1.5m hospital bed days each year and cost NHS and social care £1b. Patient care can be improved and NHS cost reduced with a Hip Fracture Programme



## A patient's story

In 2012 my mother, Alice Price aged 88, suffered a hip fracture. Although the surgery went smoothly, afterwards my mother was frail, shocked, confused and generally drained. In the busy orthopaedic ward environment, she completely withdrew into herself, sleeping most of the time. Unusually for her, she did not engage with the physiotherapists, ward staff or other patients. The operation had accelerated her low level of dementia and after a few days, postoperative delirium was diagnosed.

My mother found these new bouts of confusion, together with the busy acute ward environment, very stressful and upsetting. The orthopaedic ward staff were looking for a level of progress that she was at that stage unable to achieve and she asked to move from the busy ward to a smaller community hospital where she could recover and undertake physiotherapy. Unfortunately, it was the week before Christmas and the local community hospitals with appropriate rehabilitation facilities were full and had waiting lists.

Instead my mother was to be discharged. The ward staff believed that her existing care home was unsuitable for her needs following the hip fracture, so a new nursing home was required. At this stage my mother was unable to transfer from the bed to a chair unaided and she was not able to walk, so she was confined to a wheelchair and was totally dependent on others for all aspects of her personal care. Prior to the hip fracture she had been independently mobile with the use of a walker.

After discussions with the ward team the options were: my mother could remain on the acute ward until a bed became available at a community hospital, although this could take weeks and we all agreed that she was doing badly in the busy ward environment; or my mother could move to a nursing home and start physiotherapy once she settled and recovered from the trauma of the fall and the surgery. We chose the nursing home option. The move to a nursing home environment suited my mother far better than the busy ward, and she made remarkable progress: she began eating, she became less distressed and confused, and she engaged with the staff. Within weeks she was keen to start physiotherapy and regain a level of independence.

To my surprise, my mother was not able to re-enter the system where she had left it. Instead a new GP referral to the community physiotherapist was made. In our area, this process takes between 4 and 5 months before physiotherapy begins. Despite the many months between her surgery and starting physiotherapy, my mother made extraordinary progress. After only a few sessions she was able to stand unaided and walk short distances with a walking frame. After such a long wait she was absolutely delighted with her progress and she worked hard to improve. Sadly, just at this point my mother contracted a chest infection and she died shortly afterwards.

I know that my mother's experience is not unique and that is why I wanted to join the NHFD Advisory Group as a voice for patients and carers. Everyone's needs are different and the care you receive should reflect any additional medical, social or psychological issues that you have. I would ask that frail individuals like my mother, who need a little longer before starting their rehabilitation, are not penalised by being dropped from the hip fracture programme on leaving the acute unit. They should be given timely access to the rehabilitation they need as soon as they are fit enough to undertake it, wherever they are in the community.

**Iona Price**

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## Introduction

The National Hip Fracture Database (NHFD) is managed by the Clinical Effectiveness and Evaluation Unit (CEEU) of the Royal College of Physicians (RCP). It grew out of a collaboration between the British Orthopaedic Association (BOA) and the British Geriatrics Society (BGS).

Since its inception in 2007, the NHFD has catalysed and documented major innovations in collaborative working between orthopaedic surgeons and geriatricians. These have enormously improved the outcome for patients with hip fracture, but this injury remains a major public health challenge.

- For older people, hip fracture is the commonest serious injury; the commonest reason for them to need emergency anaesthesia and surgery; and the commonest cause of accidental death.
- Patients may remain in hospital for a number of weeks, leading to one and a half million bed days being used each year, which equates with the continuous occupation of over 4,000 NHS beds.
- Only a minority of patients will completely regain their previous abilities, and increased dependency and difficulty walking means that a quarter will need long-term care.
- As a result, hip fracture is associated with a total cost to health and social services of over £1 billion per year.

This one injury carries a total cost equivalent to about 1% of the whole NHS budget. At the same time, it poses a key challenge to modern health and social services: can individual members of staff, different departments, different hospitals and health, social care and third sector agencies all work together to meet the needs of this very frail patient population?

The NHFD's development has been described in annual reports which, with additional reports on anaesthetic care, casemix-adjusted outcome and length of hospital stay, can be found on the NHFD website: [www.nhfd.co.uk](http://www.nhfd.co.uk).

This seventh national report uses hip fracture as a marker condition – considering what progress in the surgical, anaesthetic, medical, nursing and rehabilitation care of people with this condition tells us about the care that modern health and social services should offer to all frail and older patients.

## Key findings

The NHFD is a clinically led, web-based audit of hip fracture care and secondary prevention. All 177 eligible hospitals in England, Wales and Northern Ireland are now regularly uploading data. This report describes the process and outcome of care provided to 64,864 people who presented with a hip fracture in 2015: nearly 95% of all cases in England, Wales and Northern Ireland.

## Understanding hip fracture patients

People with cognitive impairment are more than twice as likely to die during their admission, and they stay in hospital for nearly 5 days longer. Having cognitive impairment such as dementia does not compromise how promptly surgeons and anaesthetists will provide hip fracture surgery, but it does lead to poorer outcomes.

## Understanding hip fracture numbers

It is well recognised that a hospital needs to anticipate one hip fracture presentation for every 1,000 people in its catchment population. This report provides further data showing how the numbers of people presenting will vary through the day, with most patients presenting in the afternoon and early evening, and through the year with a peak in presentations in December.

## Understanding hip fracture services

Progressive improvements in outcome have proved the effectiveness of orthopaedic–geriatric collaboration in multidisciplinary hip fracture care – the hip fracture programmes (HFPs) that the National Institute for Health and Care Excellence (NICE) recommended in clinical guideline 124 (CG124). Despite this, traditional models of care continue to compromise performance in seven units, and the HFPs in many other units appear to be focused only on acute care.

## Understanding hip fracture prognosis

The frailty of many people with hip fracture means that they are often described as being at ‘high risk’ for anaesthesia and surgery. This report should provide reassurance to anaesthetists, surgeons, patients and their families – it shows that perioperative mortality is only 1–2%, even for people with ‘severe incapacitating disease’ (ASA 4 using the American Society of Anaesthesiologists’ (ASA’s) grade).<sup>1</sup>

## Understanding hip fracture outcome

Slightly more patients were included in this year’s analysis, but 200 fewer people died within 30 days of presentation – this represents a mortality rate of 7.1%, which continues the steady improvement since the 8.5% figure we reported in 2011. However, other aspects of outcome remain poorly defined, with two units being unable to report a final discharge destination for half of their patients.

## Key recommendations

### Hip fracture programme teams should:

- develop protocols to assess and monitor their patients, so better understanding of the nature and management of dementia can help to prevent delirium – the commonest complication of hip fracture
- consider adopting standardised, protocol-driven approaches to anaesthesia and surgical care
- consider whether theatre capacity and orthogeriatrician and therapist staffing is aligned to the times of day at which hip fractures commonly present
- develop a culture of continuous improvement – using NHFD performance run charts to evaluate the quality of their services
- ensure that clinical governance extends beyond the acute part of the patient pathway – to include rehabilitation, intermediate care and community elements
- ensure that robust processes allow the accurate collection of data on hip fractures – with particular attention to surveillance of complications and validity of casemix factors.

### People who commission care should:

- develop a culture of continuous improvement – using NHFD performance run charts and other quality indicators to inform discussions with local provider organisations
- consider a whole pathway approach to commissioning hip fracture services – with particular attention to how the acute HFP team integrates with rehabilitation, intermediate care and community elements of the pathway
- ensure that 120-day follow-up is an integral part of patient care, and that acute hospital teams engage with rehabilitation and community services in follow-up of patients' progress
- consider how their population is served by fracture liaison services (FLSs) to assess people at risk of falls and fragility fractures and deliver appropriate osteoporosis and fall prevention.

### People who receive care should:

- use the NHFD's *My hip fracture care* guide<sup>2</sup> – to help them understand key elements of care that they may wish to discuss with the staff looking after them.

### People who develop health policy should:

- consider the whole hip fracture pathway – so that they develop initiatives that incentivise quality and long-term outcomes, rather than being focused on acute care.



## Improving our performance

Over recent years, the NHFD has reported trends in improvement to the quality of hip fracture care – measured against twelve quality standards (QS16)<sup>3</sup> set by NICE.

NICE has this year been consulting on a refined set of quality standards, so in this year's report the NHFD examines individual hospitals' performance against a wider spread of standards derived from a range of NICE guidance – including CG32,<sup>4</sup> CG103,<sup>5</sup> CG124,<sup>6</sup> CG161<sup>7</sup> and technology appraisal guidance 161 (TA161):<sup>8</sup>

	Standard	Discussion
Timing of surgery	<b>NICE CG124</b> – Perform surgery on the day of, or the day after, admission.	The proportion of patients whose care meets this standard has improved progressively over the years since the first NHFD annual report. However, for the first time, this year's figure of 71.5% represents a slight decrease, from 72.1% in 2014. There remains unacceptable variation in performance around the country, with different units reporting figures that range from 16.7% to 92.8%. Nine centres reported operating on fewer than half of cases on the day of, or the day after, admission.
Analgesia	<b>CG124</b> – Assess the patient's pain immediately upon presentation at hospital; within 30 minutes of administering initial analgesia; hourly until settled on the ward; and regularly as part of routine nursing observations throughout admission.	Our facilities survey in 2014 indicated that three-quarters of hospitals (76.1%) routinely use a pain score tool as part of postoperative pain management.
	<b>CG124</b> – Consider adding nerve blocks if paracetamol and opioids do not provide sufficient preoperative pain relief, or to limit opioid dosage. Nerve blocks should be administered by trained personnel.	Last year's facilities survey indicated that over half of hospitals (55.0%) offered nerve blocks as part of pain management. These were usually administered by emergency unit staff or anaesthetists but we do not know how many patients received a preoperative nerve block. Our 2017 dataset will add further fields to profile the administration of preoperative blocks.
	<b>CG124</b> – Offer patients a choice of spinal or general anaesthesia after discussing the risks and benefits.	There is huge variation in rates of spinal or general anaesthesia between hospitals, ranging from 92.5% of patients receiving spinal anaesthesia in some units to 93.0% receiving general anaesthesia in others. It may prove that standardising the approach (be that spinal or general) across an individual department leads to improved quality and outcomes, and demonstration of these benefits would simplify the question surrounding informed patient choice. However, current variation suggests that choice of anaesthesia continues to be driven by the preferences of individual anaesthetists rather than the informed patient choice that NICE recommended.

	<b>CG124</b> – Consider intraoperative nerve blocks for all patients undergoing surgery.	Over one-third of hospitals (37.7%) enrolled patients in an enhanced recovery programme, which included pain management. Our data currently capture perioperative blocks as an element of postoperative pain and suggest that 43.3% of patients receive a nerve block as part of their anaesthetic, with patients receiving a general anaesthetic being more likely to receive a block (58.1% <i>cf</i> 32.5%).
Planning the theatre team	<b>CG124</b> – Schedule hip fracture surgery on a planned trauma list.	Out-of-hours operating is now rare, and in 2015 we found that 97.1% of patients undergo surgery between 8am and 8pm. This annual report includes an examination of the interplay between the time at which a patient first presents to hospital and their likelihood of being accommodated on such planned lists.
	<b>CG124</b> – Consultants or senior staff should supervise trainee and junior members of the anaesthesia, surgical and theatre teams when they carry out hip fracture procedures.	Our 2014 <i>Anaesthesia Sprint Audit of Practice (ASAP)</i> <sup>9</sup> reported that a consultant or senior surgeon and anaesthetist were present in theatre in 91.7% of reported cases. However, this audit did not include data from all units, and may have been biased towards units that have more enthusiastic consultant leads. From 2016 we have been prospectively collecting data on theatre staff seniority for all patients, with early data suggesting that 72.6% and 62.6% of cases are supervised by a consultant anaesthetist and surgeon respectively. We will present this finding in next year's annual report.
Surgical procedures	<b>CG124</b> – Perform replacement arthroplasty (hemiarthroplasty or total hip replacement (THR)) in patients with a displaced intracapsular fracture.	This year has seen the introduction of NHFD run charts that detail surgical approach, including plots for individual procedures, set against NICE's recommendations.
	<b>CG124</b> – Offer THR to patients with a displaced intracapsular fracture who are: able to walk independently out of doors with no more than the use of a stick; not cognitively impaired; and medically fit for anaesthesia and the procedure.	Nationally, 12,473 patients (19.2% of all cases) met the clinical criteria to be offered a THR. But of these patients, only 26.9% had this procedure, a slight improvement from 26.1% in 2014.
	<b>CG124</b> – Use cemented implants in patients undergoing surgery with arthroplasty.	Cementing of arthroplasties has increased in line with this NICE recommendation, up from 82.3% in 2014 to 83.6% in 2015. However there is huge variation between units, from 0% in some units to 100% in 9 units (5.1%), which reflects the degree to which some clinical teams have been affected by controversial publicity over the safety of cement.

	<p><b>CG124</b> – Use extramedullary implants such as a sliding hip screw (SHS) in preference to an intramedullary (IM) nail in patients with trochanteric fractures above and including the lesser trochanter (AO classification types A1 and A2).</p>	<p>On average, 79.8% of patients with an intertrochanteric fracture receive SHS, but there is startling variation in this, with some units reporting just 2.1% and others 100%. These data should encourage all units to examine their practice and/or the quality of their coding. Detailed audit of this would depend on correct X-ray interpretation and we plan to launch a downloadable local audit tool to facilitate local clinical governance work. From 2016 we will be collecting more detailed data to classify trochanteric fractures so that we can better assess adherence to QS16.<sup>3</sup></p>
	<p><b>CG124</b> – Use an IM nail to treat patients with a subtrochanteric fracture.</p>	<p>In 2015 we launched an online run chart so that units can monitor this aspect of their practice on a month-by-month basis. Some units report such low rates for this approach that we must question the quality of their coding of fracture and operation type.</p>
Mobilisation strategies	<p><b>CG124</b> – Offer patients a physiotherapy assessment and, unless medically or surgically contraindicated, mobilisation on the day after surgery.</p>	<p>In 2014 we added a new field to record whether patients were mobilised out of bed on the day after surgery. Such prompt mobilisation was achieved for slightly more people this year (76.1%). Nearly three-quarters (71.9%) were mobilised with a physiotherapist. However, success in mobilisation will reflect many other factors, including approaches to postoperative analgesia, fluid resuscitation and transfusion. We must question why prompt mobilisation was not possible for a quarter of patients, and we must challenge 15 units where fewer than half of patients were mobilised. Since 2016 we have widened our dataset to specifically question provision of early postoperative physiotherapy assessment and to highlight cases where mobilisation was prevented by factors other than physiotherapist leadership.</p>

Multidisciplinary management	<p><b>CG124</b> – From admission, offer patients a formal, acute orthogeriatric or orthopaedic ward based HFP that includes all of the following: orthogeriatric assessment; rapid optimisation of fitness for surgery; early identification of individual goals for multidisciplinary rehabilitation to recover mobility and independence, and to facilitate return to pre-fracture residence and long-term wellbeing; continued, coordinated orthogeriatric and multidisciplinary review; liaison or integration with related services, particularly mental health, falls prevention, bone health, primary care and social services; and clinical and service governance responsibility for all stages of the pathway of care and rehabilitation, including those delivered in the community.</p>	<p>Many units claim to have an HFP, but it is important to seek objective evidence that patients actually receive all the elements that make up this model of care. We have developed a composite measure of best clinical practice as an outcome indicator for the NHS Outcomes Framework<sup>10</sup> – this is central to the commissioners’ reporting that we publish each December.</p>
	<p><b>CG124</b> – If a hip fracture complicates or precipitates a terminal illness, the multidisciplinary team (MDT) should still consider the role of surgery as part of a palliative care approach that minimises pain and other symptoms, establishes patients’ own priorities for rehabilitation and considers patients’ wishes about their end-of-life care.</p>	<p>Operative risk is often overestimated by clinical staff. This year’s report includes an analysis of postoperative survival for the frailest patients. This annual report describes how even patients described as ‘moribund’ in the ASA’s grading<sup>1</sup> will usually survive to be discharged, but in 2015 we recorded that 24.8% of patients recorded as ASA 5 died during their hospital stay. In 2017 we plan to introduce a new data field to examine discussions to plan end-of-life care with patients and their families.</p>
	<p><b>CG124</b> – Consider early supported discharge as part of the HFP, provided that the HFP’s MDT remains involved, and that the patient is medically stable, has the mental ability to participate in continued rehabilitation, is able to transfer and mobilise short distances and has not yet achieved their full rehabilitation potential, as discussed with the patient, the carer and the family.</p>	<p>In the 2014 NHFD annual report, 48% of hospitals reported having an early supported discharge programme. However, this year’s facilities survey suggests that HFP teams still have a very limited role in monitoring or influencing their patients’ post discharge care, with only 5.6% having community team representation at clinical governance meetings.</p>

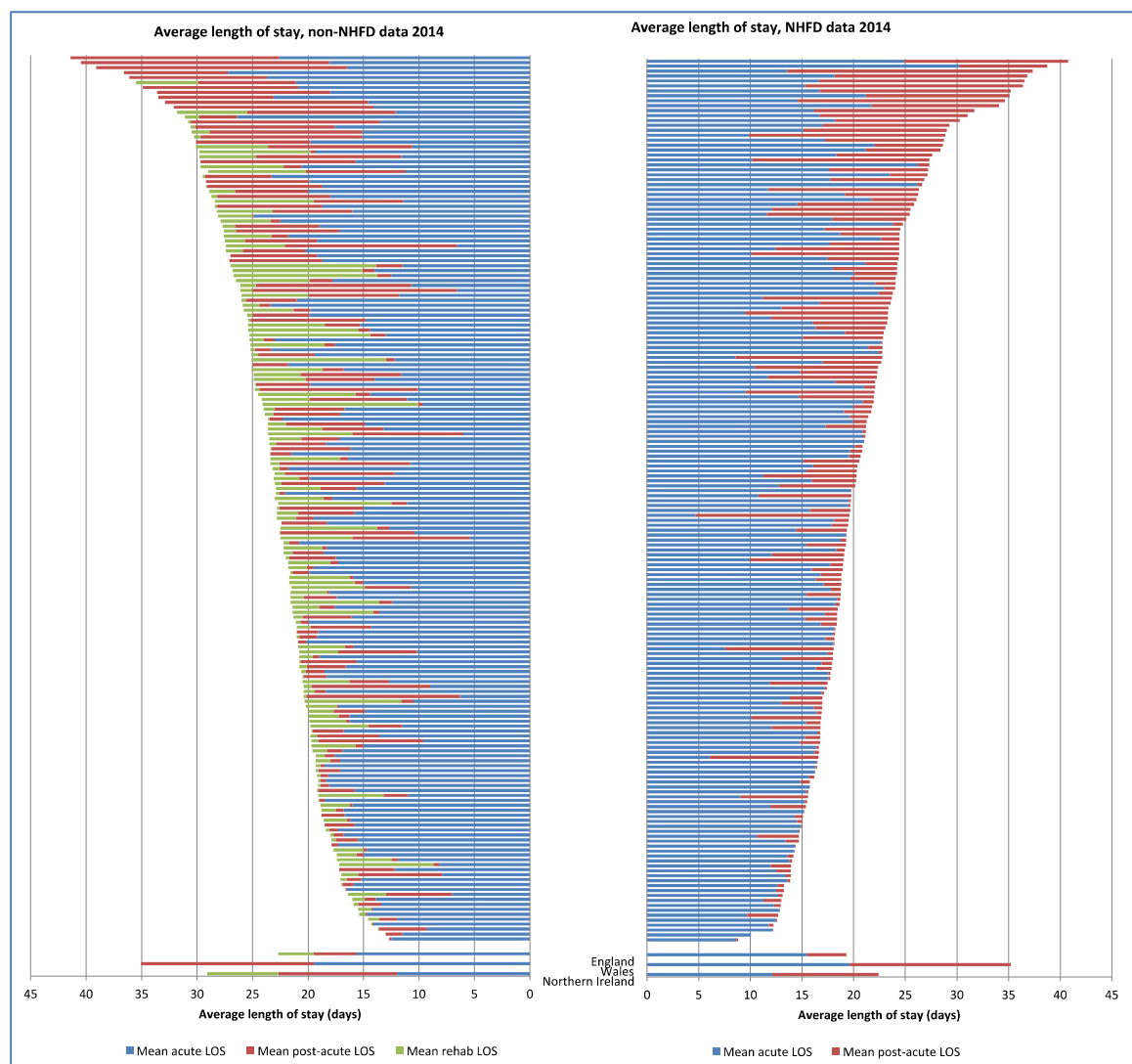
	<p><b>CG124</b> – Only consider intermediate care (continued rehabilitation in a community hospital or residential care unit) if all the following criteria are met:</p> <ul style="list-style-type: none"> <li>• intermediate care is included in the HFP and the HFP team retains the clinical lead, including patient selection</li> <li>• agreement of length of stay (LOS) and ongoing objectives for intermediate care</li> <li>• the HFP team retains the managerial lead, ensuring that intermediate care is not resourced as a substitute for an effective acute hospital programme.</li> </ul>	<p>In this year's NHFD facilities survey, only 10 hospitals (5.6%) reported that their local community rehabilitation team was represented at their monthly hip fracture clinical governance meetings. A further six (3.4%) mentioned a social worker attending.</p>
	<p><b>CG124</b> – Patients who are admitted from care or nursing homes should not be excluded from rehabilitation programmes in the community or hospital, or as part of an early supported discharge programme.</p>	<p>This year's facilities survey specifically questioned the availability of rehabilitation for people who are returned to their care home and 73.4% of hospitals reported that they could access this service.</p>
Patient information	<p><b>CG124</b> – Offer patients (or, as appropriate, their carer and/or family) verbal and printed information about treatment and care including: diagnosis, choice of anaesthesia, choice of analgesia and other medications, surgical procedures, possible complications, postoperative care, rehabilitation programme, long-term outcomes and healthcare professionals involved.</p>	<p>Our second patients' report (<i>My hip fracture care</i><sup>2</sup>) has been produced using feedback from patients and clinical teams and featuring updated statistics. Printed copies have been made available free of charge to all NHFD sites and so far over 18,000 copies have been distributed by more than 100 hospitals. Further work to evaluate the effectiveness of the patient report and to develop a second guide based on secondary fracture prevention is underway.</p>
Nutrition	<p><b>NICE CG32</b> – All hospital inpatients on admission and all outpatients at their first clinic appointment should be screened. Screening should be repeated weekly for inpatients and when there is clinical concern for outpatients.</p>	<p>Assessment is key to the recognition and management of nutrition, which is a crucial reversible factor affecting hip fracture outcome, and a marker of effective MDT working. From 2016 we have started to collect information about admission screening for malnutrition. In the first 2 months of 2016, we saw excellent uptake of this approach, with 74.9% of patients receiving such an assessment.</p>

Delirium	<p><b>NICE CG103</b> – Delirium is a specific issue raised in the hip fracture guideline CG124, which highlights CG103. CG124 states that healthcare professionals should deliver care that minimises patients’ risk of delirium and maximises their independence by actively looking for cognitive impairment when patients first present with hip fracture, and by reassessing patients to identify delirium that may arise during their admission and offering individualised care in line with CG103.</p>	<p>The proportion of patients who received cognitive screening using the abbreviated mental test (AMT) score on presentation improved markedly when this became a requirement for best practice tariff (BPT) in 2012. The mean of 94.5% in 2014 remains stable in 2015 at 94.9%.</p> <p>From 2016 we have complemented this by encouraging screening for postoperative delirium using the 4AT tool. In the first 2 months of 2016 we have seen encouraging uptake of this approach, with 44.8% of patients receiving such an assessment during the week following surgery for hip fracture.</p>
Falls prevention	<p><b>NICE CG161</b> – Following treatment for an injurious fall, older people should be offered a multidisciplinary assessment to identify and address future risk and individualised intervention aimed at promoting independence and improving physical and psychological function.</p>	<p>This year we recorded that 97.0% of patients received such an assessment. This very high level of reported compliance will conceal substantial variation in the quality of such assessments and intervention, which we are now starting to examine.</p>
	<p><b>CG161</b> – Strength and balance training is recommended. Those who are most likely to benefit are older people living in the community who have recurrent falls and/or balance and gait deficit. A muscle-strengthening and balance programme should be offered. This should be individually prescribed and monitored by an appropriately trained professional.</p>	<p>Since the start of 2016 we have introduced a new field recording which patients have been referred for strength and balance training following discharge. In the first 2 months of 2016 we have seen that 13.8% of patients are referred for this treatment.</p>
Bone protection	<p><b>NICE TA161</b> – Bisphosphonates are recommended as a treatment option for the secondary prevention of fragility fractures in postmenopausal women who are confirmed to have osteoporosis. Dual-energy X-ray absorptiometry (DXA) assessment may not be required in women aged 75 years or older if the responsible clinician considers it to be clinically inappropriate or unfeasible.</p>	<p>In 2015 we found that 97.2% of patients had been assessed for the need for bone protection medication. In total, 79.3% of patients had been started on bone protection medication, or referred for DXA scan or bone clinic, or were already on appropriate medication. A further 17.9% of patients were recorded as having been assessed but not considered appropriate for treatment. This figure has increased slightly from 16.0% in 2014. Six sites report that more than 50.0% of patients are assessed as inappropriate.</p>

## Length of stay

The roughly £1 billion per year cost of hip fracture to the NHS<sup>11</sup> is made up of relatively predictable costs (such as surgical and anaesthetic time) and other costs that are sensitive to improvements in practice. The occupation by hip fracture patients of over 4,000 hospital beds at any one time means that reductions in length of stay (LOS) offer potentially the greatest improvements in the cost-effectiveness of hip fracture care.

Last year's NHFD annual report described the difficulties that local teams, clinical commissioning groups (CCGs) and NHS England face in understanding patients' entire LOS in NHS-funded care. For this year's report, we linked NHFD data to Health Episode Statistics (HES) data for the same patients but we were only able to capture part of the LOS in NHS-funded beds that follows patients' discharge from the acute setting.



**Fig 1** Comparison of overall LOS between NHFD and administrative data (HES and Patient Episode Database for Wales (PEDW)) – each horizontal bar depicts one hospital



## England

The mean total trust LOS was 19.8 days in 2013, and it was relatively stable at 19.3 days in both 2014 and 2015. The additional LOS from HES gives a super-spell in 2014 of 22.7 days (Table 1).

Individual hospitals varied in their capture of the rehabilitation element of LOS. Many have established 120-day follow-up, but others do not appear to understand the patterns of care after discharge from the acute setting.

In one hospital (Dorset County Hospital), linked HES data were available for 84% of patients who were discharged to rehabilitation and this indicated an average stay of approximately 1 month. In contrast, for a few hospitals we were unable to identify any linked HES data for rehabilitation LOS for any of the patients who were moved to such care.

Linked data from HES captured part of rehabilitation LOS data for some settings, including a mean of 18 days in 'NHS other hospital provider'. However, data for other forms of NHS rehabilitation are very incomplete; for instance mean LOS for 'NHS run nursing home, residential care home or group home' was implausibly short, at 3 days.

Overall, only 57.3% of patients (6,705/11,701) who were recorded as being discharged to 'rehabilitation' in the NHFD had any corresponding identifiable rehabilitation episode in HES. This is better than the figure of 48.6% for 2013, but it still implies that a substantial amount of NHS-funded care is not captured in HES data, and it casts considerable doubt on the estimated super-spell, and hence on the overall cost of hip fracture to CCGs and NHS England.

At a time when NHS England is being challenged over the efficiency of arrangements to discharge older people from hospital<sup>12</sup> it can only compromise the development of appropriate services if local commissioners cannot define overall LOS for this easily defined patient cohort. This lack of definition for later stages of the patient pathway also runs counter to the NICE recommendation in CG124 that we:

*Only consider continued rehabilitation in a community hospital or residential care unit if all of the following criteria are met:*

- *intermediate care is included in the Hip Fracture Programme (HFP), and*
- *the HFP team retains the clinical lead, including patient selection, agreement of LOS and ongoing objectives for intermediate care, and*
- *the HFP team retains the managerial lead, ensuring that intermediate care is not resourced as a substitute for an effective acute hospital Programme.*



**Table 1 Overall LOS by nation (2014)**

	NHFD figures			PEDW, FORD and HES figures				
	Acute	Post	<i><b>Total</b></i>	Acute	Post	<i><b>Total</b></i>	Rehab	<b>Super-spell</b>
England	15.5	3.8	19.3	15.6	3.9	19.5	3.2	22.7
Wales	19.6	15.6	35.2	19.5	15.6	35.1	N/A	34.9
Northern Ireland	12.1	10.3	22.4	12.0	10.7	22.7	6.4	29.1
<b>Overall</b>	<b>15.9</b>	<b>4.3</b>	<b>20.2</b>	<b>15.7</b>	<b>4.9</b>	<b>20.6</b>	<b>3.1</b>	<b>23.7</b>

FORD, Fracture Outcomes Research Database; HES, Health Episode Statistics; NHFD, National Hip Fracture Database; PEDW, Patient Episode Database for Wales.

## Wales

The NHFD figure for overall LOS in Wales has fallen from 35.8 days in 2013, to 35.2 days in 2014 and to 33.4 days in 2015.

We linked NHFD data at hospital level for 2014 to data from the Patient Episode Database for Wales (PEDW). Local health boards in Wales combine acute and community services, so post-acute stay and rehabilitation stay are not distinguished in PEDW.

Patients usually receive all of their care in the health board to which they originally present, and there is little provision for NHS-funded care home rehabilitation. Due to this service configuration, the overall LOS figure of 34.9 days from PEDW was very similar to the NHFD figure of 35.2 days in 2014.

## Northern Ireland

The NHFD figure for overall LOS in Northern Ireland has fallen from 22.9 days in 2013, to 22.4 days in 2014 and 2015. In Northern Ireland there is no independent data source that is equivalent to PEDW or HES. However we were able to obtain data from the Fracture Outcomes Research Database (FORD), to compare with NHFD results.

An additional 6.4 days of rehabilitation were identified using data from FORD, implying a total super-spell of 29.1 days in Northern Ireland, slightly reduced from 30.2 days in 2013.

## Missing LOS

LOS represents the largest cost in hip fracture patient care, so a lack of accurate data is even more of an issue when local health economies are looking at ways to reconfigure their emergency care services.<sup>13</sup>

Uncertainty over super-spread has a number of implications. Some CCGs are clearly not in a position to make informed decisions about the appropriateness of providing rehabilitation in community hospitals or care homes, as they do not have a unified data source with which to monitor LOS in these settings.

Our facilities audit found considerable variation in the rehabilitation options that are available – 39.5% of units using convalescence beds in another trust, 47.5% using NHS-funded care home beds, 61% using MDT-led rehabilitation in another trust and 71.2% using NHS-funded care home beds.

Reliance on transfers to community rehabilitation hospitals has been shown to be associated with a longer LOS in the NHS.<sup>14</sup> Many units report that they routinely transfer their patients to rehabilitation beds, but many of them have no mechanism to monitor LOS or final outcome for all of the patients they send there.

Ten units (5.6%) report that they have no access to post-acute beds. Five units (2.8%) report that they only have access to convalescence beds. However, a third of units describe discharging some patients to another hospital for ‘convalescence and care planning’ rather than rehabilitation, and nearly half report using NHS-funded care homes for this purpose – an approach that runs counter to the cost-saving HFP model recommended by NICE in CG124.<sup>6</sup> Local clinical teams should be challenging such an approach. It is costly and ineffective to accommodate people in NHS-funded beds without using such placement to rehabilitate them, to allow their return to pre-fracture levels of independence, and so to avoid the £64,000 cost<sup>15</sup> associated with a care home placement.

NICE argued that the HFP team should take a governance lead for the whole of their patients’ clinical pathway, and it is clear that many units have yet to establish links with the community rehabilitation, primary care and social services to which they transfer their patients.

The NHFD’s move to a focus on 120-day follow-up seeks to encourage such links so that units can evaluate their success in returning patients to mobility, independence and their own homes. Some units already know which patients successfully return home, as they record their final discharge destination. Furthermore, many units already complement such information with the results of routine 120-day follow-up. In contrast, some units have no mechanism to know the outcome of the care they are providing, as they collect neither data on patients’ return home nor attempt follow-up.

This year we have included a new metric ‘Documented final discharge destination’ – figures for each unit being given in the [regional ‘Outcomes’ tables](#) at the end of this report.

Across the NHFD, 17.8% of all cases included no documented record of final outcome – patients not being known to have been discharged to ‘own home’ or ‘care home’, or to have died, and with their residential status at 120-day follow-up being recorded as ‘missing’ or ‘unknown’. At two sites (Royal Stoke University Hospital and West Wales General), such outcome data were absent for more than half of the patients they had looked after during 2015.

## Mortality

The age and frailty of hip fracture patients mean that up to a third of people die within a year of the injury. Only half of deaths that occur within a few months of hip fracture can be directly attributed to the injury, hospitalisation and surgery. However, patients, their families and carers often recognise the impact of hip fracture in precipitating or complicating a patient's final illness.

NICE CG124<sup>6</sup> identified prompt surgery and coordinated multidisciplinary orthogeriatric care as key factors in improving patient outcomes (such as preventing death) after hip fracture.

Independent evaluation using non-NHFD data has shown how trends in 30-day mortality have responded since the NHFD's inception in 2007, when the figure was 10.9%, falling to 8.5% in 2011.<sup>16</sup>

### Casemix-adjusted analysis of 30-day mortality

We have performed a casemix-adjusted analysis of 30-day mortality using externally validated data from the Office for National Statistics (ONS) and Northern Ireland – the methodology is described in last year's report.<sup>17</sup>

- Records were included for people aged 60 years or older who presented during 2015.
- We excluded duplicates and cases where dates of death and admission were missing.
- Crude rates of mortality within 30 days of presentation were calculated – these are already available to participating hospitals in NHFD run charts: [www.nhfd.co.uk](http://www.nhfd.co.uk).
- Casemix adjustment with the NHFD–Royal College of Surgeons (RCS) model uses six variables: age, anaesthetic (ASA) grade, sex, source of admission, mobility and fracture type.
- We used funnel plots of crude and adjusted mortality to compare units' performance.
- 'Outlier' hospitals were those with adjusted mortality outside the funnel plot's 99.8% (3 standard deviation (SD)) control limits – the completeness and quality of these units' data were reviewed.

All 177 units providing acute hip fracture care in England, Wales and Northern Ireland and a total of 64,858 patients were included in this year's mortality analysis – a slightly larger number than the 64,049 that we reported last year.

In spite of this increase, we recorded that 200 fewer people died (4,622 in 2016 *cf* 4,821 in 2014) within 30 days of presentation – giving an overall mortality rate of 7.1% for 2015. This figure represents a further improvement in 30-day mortality from the 7.5% we reported for 2014, and it continues a progressive improvement from the 8.5% we reported in 2011.

The availability of run charts on the NHFD website means that the findings of this analysis should not come as a surprise to units that were identified as outliers from the funnel plot, since their crude mortality figures have been available to them throughout the last year.

All hospitals identified as showing mortality rates that are outside of the 95% (2SD) control limits were contacted prior to publication of this report. We recommend a thorough internal review of the data alongside the crude mortality we report in individual hospital run charts.

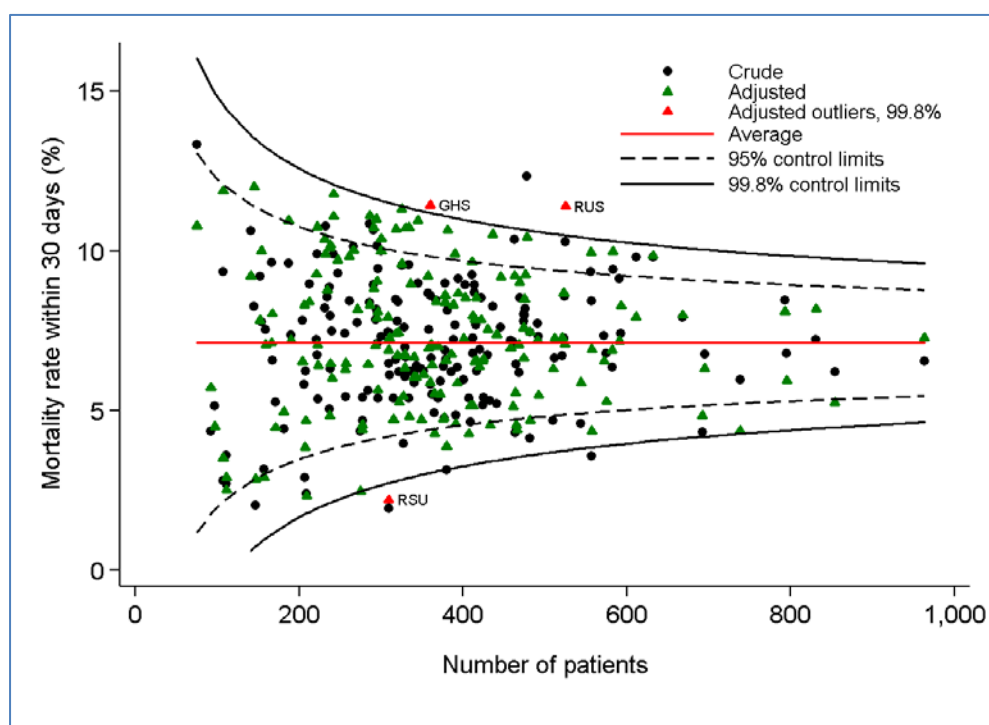
Where we have identified that increased mortality is suggestive of poor performance, we recommend that sites consider requesting a multidisciplinary service review from the British Orthopaedic Association (BOA) and the British Geriatrics Society (BGS).

## Hospitals with increased mortality

After casemix adjustment, we identified two hospitals as outliers with 30-day mortality rates above the upper 99.8% (3SD) control limit.

- The crude mortality rate at the Russells Hall Hospital, Dudley (RUS) has been higher than the NHFD average in recent years, and it averaged 10.3% in 2015. The unit's previous data quality issues appear to have improved, and after casemix adjustment the figure for 30-day mortality in 2015 was 11.4%.
- The crude mortality figure at Good Hope Hospital, Birmingham (GHS) has been comparable to the NHFD average in recent years, but it was elevated at 8.6% last year. However data quality remains a concern for this unit and will have contributed to an adjusted rate of 11.4% in 2015.

Our last mortality report identified four hospitals as outliers from 2014 data. None of these units remained outliers at the 99.8% (3SD) control limit for 2015.



**Fig 2** Funnel plot of crude and adjusted mortality rates within 30 days (2015)

A further 20 hospitals had adjusted mortality rates above the upper 95% (2SD) control limit. However, observations that lie outside of the 95% limits should be interpreted with caution. In an analysis of 177 hospitals, we would expect a few hospitals to fall outside these control limits by chance, simply as a result of expected statistical variation.

Additionally, a number of these hospitals have casemix profiles that differ from the overall average and/or from their own profile last year. The crude mortality rate of many hospitals fluctuated in and out of the 2SD control limit between 2014 and 2015; in addition, data quality issues were seen to affect the results for several units.

- Gloucestershire Royal Hospital, Gloucester was identified as an outlier in our report on 2014 data, and it still has a mortality rate above the 95% control limit for 2015 data.
- Two hospitals still have adjusted mortality above the upper 95% limit, as they did in our last report – Medway Maritime Hospital and Royal Shrewsbury Hospital.
- Eight hospitals had adjusted mortality rates above the upper 95% limit in 2015, although they had not been high the previous year – Hinchingsbrooke Hospital, Huntingdon; Milton Keynes General Hospital; Northern General Hospital, Sheffield; Sandwell General Hospital; Scarborough General Hospital; South Tyneside District Hospital; University Hospital Coventry; and Weston General Hospital, Weston-super-Mare.
- Five hospitals had adjusted mortality figures above the 95% limit that appears to reflect issues relating to data quality compounding above average crude mortality figures – Alexandra Hospital, Redditch; Queen Elizabeth Hospital, Woolwich; George Eliot Hospital, Nuneaton; Blackpool Victoria Hospital; and Dorset County Hospital, Dorchester.
- Five hospitals had high adjusted mortality that primarily appears to reflect poor data quality – Queen’s Hospital, Burton on Trent; Frimley Park Hospital, Camberley; Kingston Hospital; University College Hospital, London; and Musgrove Park, Taunton.

### Hospitals with low 30-day mortality

After casemix adjustment, we identified one hospital as an outlier, with a mortality rate below the lower 99.8% limit.

- Data submitted by the Royal Surrey County Hospital, Guildford (RSU) indicated a crude mortality rate of 1.9% in 2015, with an adjusted rate of 2.2%, which lies well below the 7.1% average for the NHFD (see Fig 2).

In addition, we found 15 hospitals in which the adjusted 30-day mortality in 2015 was better than in the majority of units, as indicated by rates falling below the lower 95% limit.

- Last year we identified the Royal Victoria Hospital, Belfast as an outlier at the lower 99.8% limit, and in 2015 its mortality remained relatively low and below the lower 95% limit.
- Adjusted mortality rates were below the lower 95% limit in seven other hospitals – St Mary’s, Isle of Wight; Ipswich Hospital; Ulster Hospital, Belfast; Queen Alexandra Hospital, Portsmouth; Queen Elizabeth the Queen Mother Hospital, Margate; Torbay District General Hospital; and Watford General Hospital.
- Poor recording of casemix data, and in particular unusual patterns of ASA grade, at least partially explain the appearance of low adjusted mortality for Royal Victoria, Newcastle; Stepping Hill, Stockport; and Royal Stoke University Hospital. Also, more general data quality issues were identified in Addenbrooke’s Hospital, Cambridge; Bedford Hospital; Royal Sussex Hospital, Brighton; and West Wales General, Carmarthen.

## Monitoring mortality

The NHFD's annual reporting cycle primarily serves as a review of the live web-based data that we make available to drive the clinical governance process in individual hospitals.

Data quality issues continue to cast doubt on the results reported by a number of units. In particular, we have challenged a number of units that were failing to record all cases presenting to them, or that were not reporting all cases that were managed without surgery. Sensitivity analyses have reassured us that such factors would not have affected which units were identified as outliers in this mortality analysis. However, if units wish to monitor and improve their performance and patient outcomes, then poor data quality will limit the usefulness of the data portfolio and web-based charts that the NHFD provides to support local clinical governance.

Crude and adjusted mortality figures for all units are detailed in the ['Outcomes' tables](#) at the end of this report. Regardless of whether units have been identified as outliers for 30-day mortality in 2015, they should examine local run charts to consider how their crude mortality figures have changed in subsequent months so that they can anticipate their results for next year's analysis.

These tables should also inform local review of data quality, especially if a marked difference between crude and adjusted mortality figure suggests the possibility of poor-quality data for the casemix variables: age, ASA grade, sex, source of admission, mobility and fracture type.

### Worthing Hospital – improving mortality by pathway redesign

Worthing Hospital was an early adopter of the NHFD and it found the annual reports particularly useful to benchmark outcomes compared with other trusts nationally. These data provided a stimulus to reduce 30-day mortality for patients with hip fracture. In 2010–11 mortality was 17.9%, triggering a mortality alert. With support from the trust board and by collaborative working across geriatrics, orthopaedics, anaesthetics and the whole MDT, a new pathway was implemented. This incorporated best practice as identified by the database and it resulted in a reduction in mortality to 9.8% in 2012–13.

When the 2014 NHFD annual report was published, it was clear that, although much improved, mortality was still above the national average at 10.8% for the previous 3 years (compared with 8.4% nationally). Since then, adherence to our pathway has been monitored and fed back to individuals and teams where adherence has wavered. Root cause analyses are run (by consultants from geriatrics, orthopaedics and anaesthetics) for all hip fracture deaths and learning points are circulated to all members of the MDT. Unadjusted 30-day mortality has now reduced to 6.4% for patients admitted in 2015 and 5.5% for the first 4 months of 2016. The pathway has been subsequently improved by incorporating knowledge gained over the last 5 years along with aspects of the NICE guidelines on falls and bone health assessments.

## Understanding our patients

The typical patient presenting with a hip fracture is an 83-year-old woman with at least one significant problem with her physical or mental health. Most patients have a number of physiological and psychological impairments and are taking a variety of regular medications, all of which combine to reduce their ability to cope with the additional stress of a fall, a painful injury, admission to an unfamiliar environment, surgery and anaesthesia, and the challenges of trying to regain mobility and independence.

The most significant of these issues is cognitive impairment. Over a quarter of patients are known to have dementia when they present, and screening for cognitive impairment will identify others in whom this diagnosis had not previously been made.

Delirium is the commonest complication of hip fracture, with many cognitively impaired patients struggling to cope with the events around the time of their injury and operation.

## Understanding the implications of dementia

Since the establishment of the NHFD, screening for cognitive impairment with an abbreviated mental test (AMT) has become routine in all trauma units. In 2015 the AMT result was reported for 94.9% of patients. On screening at presentation, 22,595 patients (37.5%) had a low AMT score (<8/10), while 37,632 patients (62.5%) had a normal AMT.

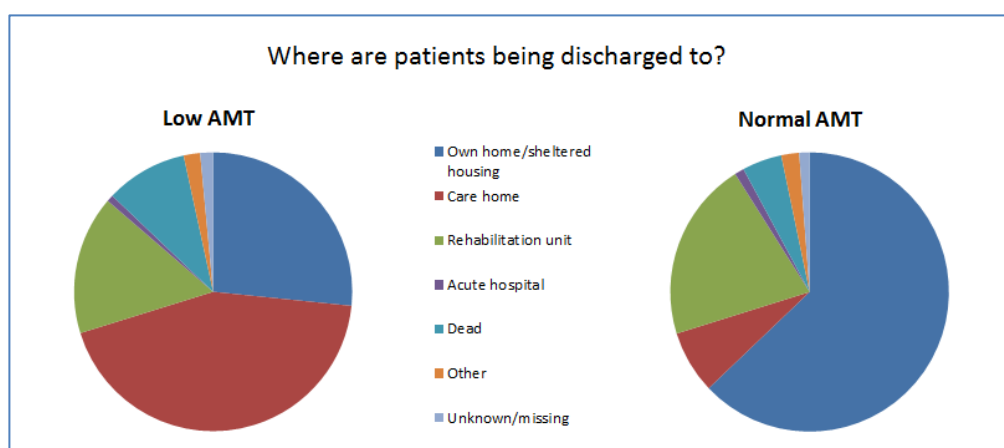
People with an abnormal AMT were slightly older (a mean age of 85.6 years, *cf* 81.0 for those with a normal AMT), and included a greater proportion of women (74.5% *cf* 70.3%).

They were less likely to be admitted from home (51.1% *cf* 93.6%), and 10 times more likely to be admitted from a care home (43.2% *cf* 4.1%) or hospital (5.7% *cf* 2.3%). People with a low AMT accounted for 60% of all those where the injury followed an inpatient fall.

Patients with a low AMT were slightly less likely to be admitted to an orthopaedic ward within 4 hours (40.9% *cf* 44.3%). Despite this, their time to operation was unaffected, being 31 hours in both groups, with 75% of both groups getting to theatre within 36 hours.

Cognitively impaired patients tended to be graded as being less fit for anaesthetic – 84.1% were ASA 3–5 (*cf* 60.3%), and they were more likely to receive a general anaesthetic (54.9% *cf* 48.7%). Very encouragingly, they were more likely to receive a nerve block (45.0% *cf* 42.5%) as part of their pain management – an approach that should help to reduce their risk of delirium by reducing their need of opioid analgesia for postoperative pain.

Although cognitively impaired patients experienced no greater delay in surgery, we found that they were less likely to be mobilised by the first postoperative day (72.2% *cf* 82.1%). They were also less likely to be documented as free of pressure sores (94.0% *cf* 95.4%), and about half as likely to return to their own home within 30 days (30.5% *cf* 58.1%).



**Fig 3** Discharge destination of low versus normal AMT patients

Patients with cognitive impairment were more likely to die during their admission, with an inpatient mortality more than twice that of patients with a normal AMT (9.5% *cf* 4.6%).

Cognitively impaired patients had a trust LOS that was nearly 5 days longer (22.8. *cf* 18.1 days). However, this figure oversimplifies a complex issue – options for rehabilitation and convalescence placement will differ between the groups and between different units. The interplay between dementia and overall LOS is a topic that warrants further investigation.

### Understanding delirium as a complication of hip fracture

Routine screening with an AMT has numerous implications for patients' nursing care, falls prevention, discharge planning and outcome. It also helps to identify people who are at particular risk of developing delirium.

Modern orthopaedic practice means that complications of hip fracture surgery are relatively rare, with events such as wound infection and reoperation affecting less than 2% of cases. The risk of delirium contrasts dramatically with such figures, making delirium the commonest complication of hip fracture, occurring in around half of patients.<sup>18</sup>

Delirium is hugely distressing to the patient, their families and carers, and to staff and other patients on the ward. It is poorly recognised by many staff, and without very active management many people fail to ever fully return to their previous mental state. As a result, it is hugely expensive in terms of quality of life, length of hospital stay and requirement for long-term care.

Delirium is widely misunderstood. All too often staff seem to view it as a synonym for agitation, 'disorientation in time and place' and 'query UTI', but recent years have seen huge progress. Delirium is best defined using the approach described in the Confusion Assessment Method.<sup>19</sup> This extends traditional descriptions of acute confusion by highlighting key symptoms and signs including problems with 'attention' and 'alertness'; emphasising the importance of 'hypoactive' or 'apathetic' delirium, as opposed to the more familiar 'hyperactive' form. Assessment tools such as the 4AT<sup>20</sup> are increasingly used as a way of educating staff and helping them to recognise key features. For example, reduced 'attention' is highlighted by asking the patient to repeat the months of the year in reverse order.

A postoperative 4AT score was added to the NHFD's core dataset in January 2016. The NHFD has proposed that this would be more appropriate than the current postoperative AMT score that is



required for BPT, to improve early recognition and management of delirium. In the first 2 months after its introduction, assessment with 4AT was recorded in 44.8% of cases.

Delirium is rarely the result of a single precipitating factor. This multifactorial nature makes it inappropriate to assume that 'it will get better if we treat the UTI'. Prevention and treatment require a holistic approach with comprehensive geriatric assessment of the frail patient to identify and correct a number of coexisting stressors and insults.<sup>18</sup>

## Understanding our hospitals

### Models of orthopaedic–orthogeriatric collaboration

Orthogeriatric support has transformed care for patients but different hospitals have different levels of collaboration and models of service provision. Each unit will develop an approach that reflects historical and current considerations and the enthusiasms of individual clinicians.

Comparison of performance and outcomes of different approaches requires clarity over the model of the service in each unit, so we are developing a classification system to facilitate comparisons and future research.

Our 2015 facilities survey asked all 177 hospitals to define the nature and frequency of orthogeriatric input. Some orthogeriatricians support other trauma patients, so we corrected for this by questioning 'who is routinely reviewed on ward rounds' to define which input is focused on patients with hip fracture. All units responded and six models were identified, as listed in Table 2.

**Table 2 Summary of service classification models**

Classification system proposed in the 2015 NHFD facilities survey
<p><b>Traditional model</b></p> <p>On the trauma ward, the orthopaedic team lead both surgical care and rehabilitation. Geriatrician input may be limited, with medical queries dealt with on a consultative basis.</p>
<p><b>Postoperative geriatric care</b></p> <p>Patients are admitted to care under the orthopaedic team. The patients are routinely taken over by geriatricians in the postoperative period, often on another ward.</p>
<p><b>Routine orthogeriatric review</b></p> <p>Patients with hip fracture are admitted under the orthopaedic team. Orthogeriatricians have scheduled ward rounds and see sick patients and new patients, and help with discharge planning, but the patient remains under the orthopaedic team.</p>
<p><b>Admitted under geriatrics</b></p> <p>Patients are routinely admitted and remain under the geriatricians with review by the orthopaedic team.</p>
<p><b>Shared care</b></p> <p>Patients are admitted under joint care and are managed by a named orthopaedic surgeon and orthogeriatrician with a defined orthogeriatric team.</p>
<p><b>Other</b></p>

Progress in the integration of orthogeriatric care was evident in that most units described one of two models: 75 (42%) described 'routine orthogeriatric review' and 78 (44%) described 'shared care'.

Seven other units (4%) admitted patients directly under a geriatrician, and nine more (5%) routinely transferred patients to the care of a geriatrician after the perioperative period.

One unit (Peterborough City Hospital) is led by an internationally renowned hip fracture specialist surgeon who provides a lead on perioperative medical care, rehabilitation and discharge planning of his patients. Only seven (4%) generally smaller units still describe a 'traditional model' of orthopaedic care with orthogeriatric review only available on a consultative basis.

### University Hospital of North Durham – improving teamwork to improve care

The appointment of a permanent orthogeriatrician was the trigger for a cultural change and a concerted team effort by the entire orthopaedic team at University Hospital of North Durham. It was agreed that all patients who are fit were to get to theatre within 36 hours, and figures were presented weekly. A checklist was introduced to be used for each patient to ensure that: blood results were checked, the pre-AMT was done, the consent was completed and the do not attempt resuscitation (DNAR) status was discussed. Hip fracture patients are now put first on the trauma list whenever possible and elective theatre lists will be delayed if there is insufficient capacity to get all waiting hip fractures operated within 36 hours.

In addition, hip fracture patients are pre-warmed 30 minutes prior to theatre and taken to theatre on a trolley to avoid taking bedding into theatre. Antibiotic prophylaxis policy has been reviewed and we ensure that best practice is followed in theatre.

This has resulted in a significant improvement in performance, with over 70% of patients achieving BPT criteria compared with less than 50% in 2012/13. In addition, the infection rate is now below the national average, where previously we were a national high outlier. Being able to demonstrate the month-on-month improvements as shown on the NHFD charts has provided invaluable positive reinforcement.

### Orthogeriatric staffing

Senior orthogeriatric (OG) staffing (doctors of grade ST3 and above) has improved this year, and 145 units (82%) now describe daily weekday OG ward rounds.

Even after exclusion of contributions to the care of patients with other conditions, senior OG staffing averaged 5.5 hours per hip fracture patient, compared with the figure of 4 hours that we identified in 2014. Provision was greatest (6.9 hours per patient) in units that provided 'shared care'.

- Seven hospitals (Glan Clwyd Hospital, Rhyl; New Cross Hospital, Wolverhampton; Noble's Hospital, Isle of Man; Northumbria Emergency Care Hospital; Newham General Hospital; Southport District General Hospital; and Victoria Hospital, Blackpool) have no OG consultant.
- Four of these (Glan Clwyd Hospital, Rhyl; Noble's Hospital, Isle of Man; Newham General Hospital; and Victoria Hospital, Blackpool) also have no routine OG middle-grade support.
- In total, 66 hospitals (37%) have no middle-grade OG support.
- Overall, 30 hospitals with an OG consultant (17%) have no middle-grade or non-medical support.
- The median number of OG consultant hours is 16 hours (range 0–88 hours).
- The median number of OG middle-grade hours is 6 hours (range 0–112 hours).

Performance was poorest in 'traditional models'. These units tended to be smaller. Only 63.9% of their patients received surgery by the next day (as NICE CG124 recommends),<sup>6</sup> compared with over 70% for all other models.

**Table 3 Performance of different service models**

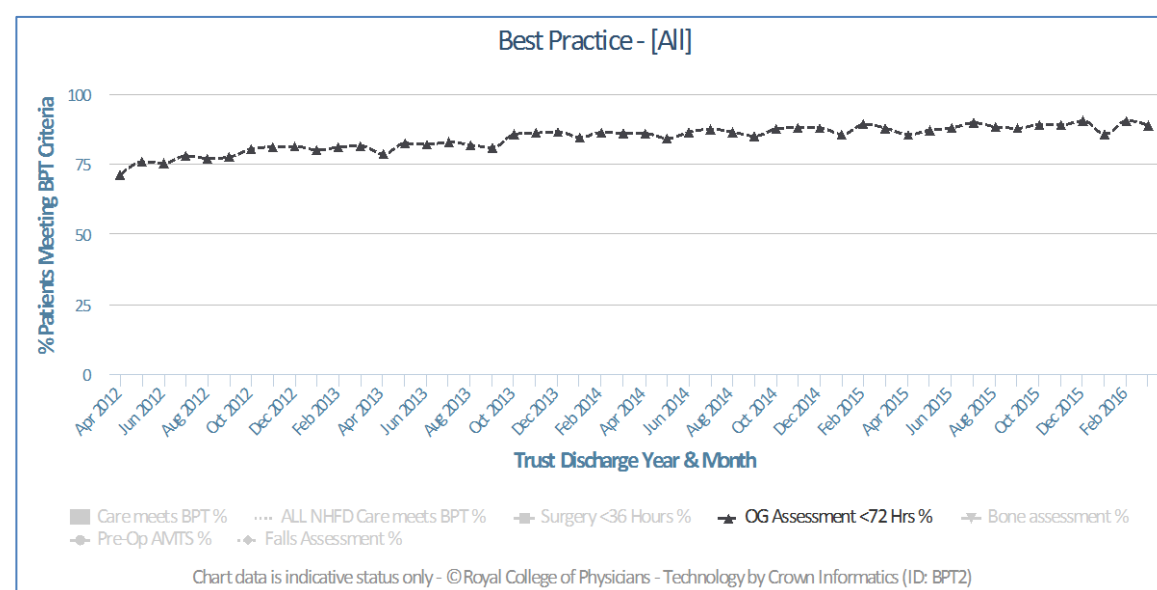
	N	Patients per year	OG input hours/case	Periop OG assessment (%)	Op same or next day (%)
Traditional orthopaedic model	7	256	1.5	37.0	63.9
Peterborough model*	1	389	0.0	88.5	81.5
Admitted under geriatricians	7	328	3.5	96.7	73.9
Postoperative geriatric care	9	349	4.9	86.1	72.2
Routine orthogeriatric review	75	328	4.9	83.4	71.6
Shared care	78	355	6.9	90.1	72.3
<b>Overall</b>	<b>177</b>	<b>339</b>	<b>5.5</b>	<b>85.3</b>	<b>71.8</b>

OG, orthogeriatric; Op, operation.

\*[See page 25](#)

## Preoperative orthogeriatric assessment

In England, BPT requires orthogeriatric assessment within 72 hours, and we have documented progressive improvements in the extent to which this has been achieved across England, Wales and Northern Ireland.



**Fig 4 Trends in perioperative orthogeriatric assessment**

However, NICE specifically recommends the involvement of orthogeriatricians in the preoperative assessment and optimisation of patients with hip fracture.

We have examined rates of orthogeriatric assessment before surgery. Just over half of patients now receive this, with figures for individual units ranging from none to nearly 90% of patients. However, adoption of this as a measure of HFP performance might lead units to delay patients' operations

until they have been reviewed, so a better approach may be to examine whether patients were able to be seen before prompt surgery.

A third of patients now receive surgery within 36 hours, having already been reviewed by an orthogeriatrician, with some units achieving this for two-thirds of their patients.

#### **Royal Berkshire Hospital – improving care with pathway redesign**

The Royal Berkshire Hospital has been submitting data to the NHFD since 2007 following the appointment of a second orthogeriatrician and commencement of a full-time orthogeriatric service. This service was composed of daily ward rounds on the orthopaedic wards with hip fracture patients seen pre- and postoperatively. A separate 12-bedded orthogeriatric rehabilitation ward was under the care of the orthogeriatricians.

The team used the NHFD to demonstrate compliance with the Blue Book standards<sup>21</sup> and high-quality care, and when BPT was introduced was able to attain over 70% with the existing service. However the team was not content with standing still and new standards meant that it was time for a change.

A complete pathway redesign was implemented, with a new 24-bedded hip fracture unit opening in February 2015. Patients with fractured hips are now admitted straight from the emergency department to the hip fracture unit under the care of the orthogeriatricians, with a dedicated specialist MDT to provide perioperative care and rehabilitation.

Prompt preoperative optimisation and close working with trauma and anaesthetic consultants, improved communication with patients' next of kin, closer postoperative monitoring to prevent complications, early mobilisation and proactive discharge planning have enhanced the care of the patients, with a significant reduction in LOS from 19.3 to 15.2 days.

Other interventions in the unit include staff education and training, an enhanced recovery programme, a refresh of the hip fracture pathway documentation, weekly antimicrobial meetings, physiotherapy-initiated first-day mobilisation and development of two higher monitoring bays for pre- and immediate postoperative monitoring of unstable patients.

Once again, the NHFD has proved invaluable for real-time monitoring of change. Since the new unit was opened, the average length of time taken to transfer patients from the emergency department to the unit has reduced from 10.4 to 6.3 hours (compared nationally with 9.3 hours). The number of patients mobilising on the first postoperative day has increased from 54.3% to 80.6% (early 2016 data is showing a further increase to 91%). Most importantly of all, our patients have seen the difference, with the Friends and Family Test (FFT) showing that 98% of patients would recommend the unit. And we are not done yet, with plans to introduce a dedicated hip fracture clinical governance system in autumn 2016.

#### **Understanding changing pressures through the day**

An analysis of data from 2014 shows that most patients present during the afternoon and early evening, many too late for surgery the same day. Surgery the next morning requires teams to have anticipated such presentations and made provision for rapid assessment and optimisation.

In developing its guidance, NICE considered the implications of surgery within 24 hours. Such a target might have benefits, but it would be much less cost-effective – operating lists would need to be written and started with unfilled slots for patients who might present later in the day. Our results confirm how challenging a 24-hour target would prove, especially given the high rates of new patients presenting during the working day.

In its published guideline, NICE therefore recommended that patients should receive surgery ‘on the day of, or the day following presentation’. Our data show how for most patients this maps closely to the target of surgery within 36 hours that is used in NHS England’s BPT.

This analysis has shown time of presentation to have a much less marked effect on success in delivering prompt surgery when measured against NICE and NHS England’s targets.

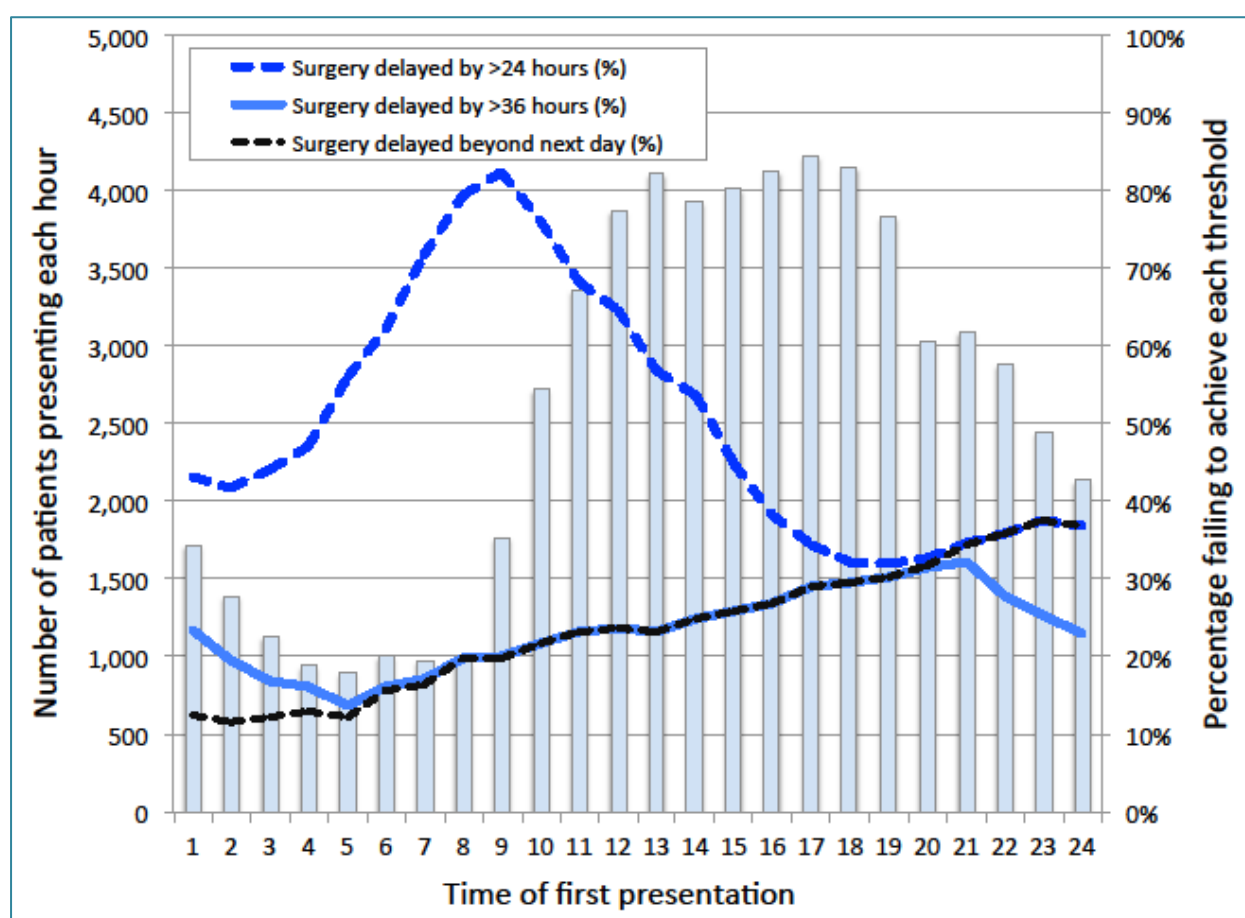


Fig 5 Impact of time of presentation on time to theatre

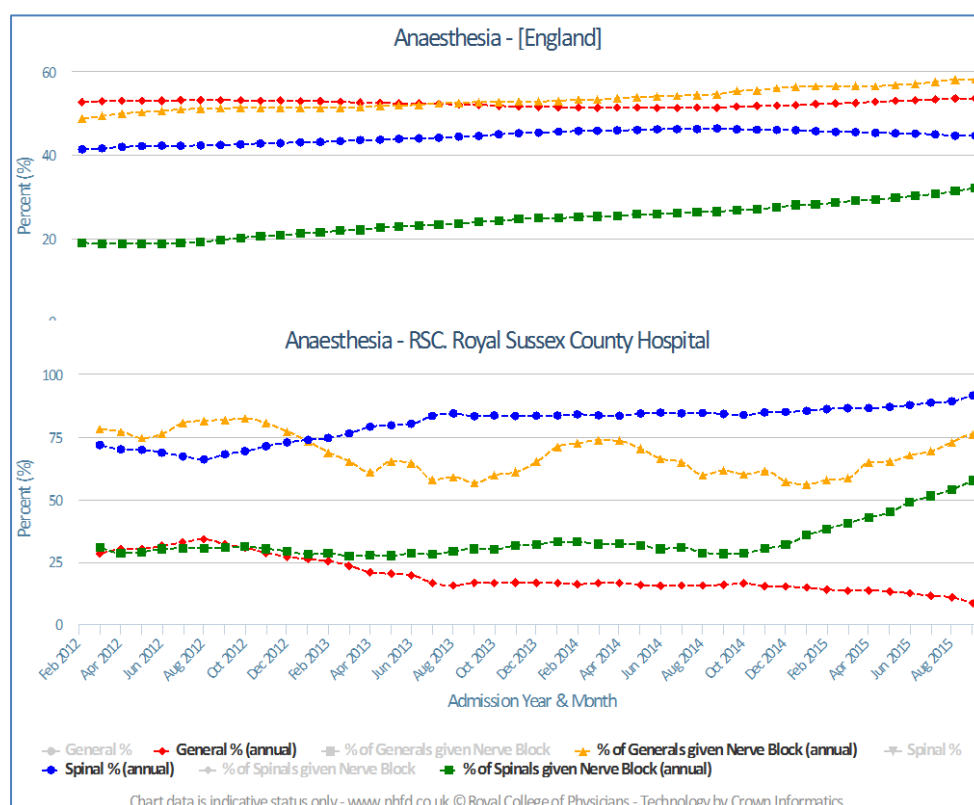
## Anaesthetic care

### Understanding variation in anaesthetic care

A lack of evidence that one form of anaesthesia is superior to another with regard to mortality, LOS, or deterioration in cognition, residency and dependency<sup>22</sup> meant that NICE recommended that the choice of anaesthesia should be based on patient preference.

Across the country, general anaesthesia remains more common than spinal anaesthesia (55.1% vs 44.9%). General anaesthesia rates vary from 5.6% to 95.1%, which would suggest that departmental policies and preferences, rather than patient choice, often determine the anaesthetic approach.

The picture is more dynamic for individual hospitals, with the impact of changes in practice being visible in real time – as for instance at the Royal Sussex County Hospital, Brighton, where the success of a local drive to introduce a standardised approach to anaesthesia and increase the use of nerve blocks can be seen.



**Fig 6** England and Royal Sussex County Hospital anaesthetic trends

One measure of effective pain management is the use of perioperative nerve blocks. Over the past 4 years, there has been a sustained improvement in the provision of perioperative blocks. The national figure has increased from 32% to 43% where anaesthetic type was reported.

This intervention is simple, effective and inexpensive, so it is unclear why 15 hospitals still only provide it to fewer than 10% of patients (Altnagelvin Area Hospital; Royal Bolton Hospital; Bassetlaw Hospital; Countess of Chester Hospital; Doncaster Royal Infirmary; Darent Valley Hospital; Ealing Hospital; Homerton Hospital; Northwick Park Hospital; Northampton General Hospital; Royal Shrewsbury Hospital; James Cook University Hospital; West Middlesex University Hospital; Maelor Hospital, Wrexham; and West Wales General Hospital).

Local HFP teams should look at ways of maximising the availability of nerve blocks in theatre, but also in emergency departments and wards as an option to be considered for individual patients to help to reduce the pain experienced during investigation of the fracture and bed transfers.

### Basildon Hospital – improving anaesthesia for hip fracture patients

The *Anaesthesia Sprint Audit of Practice (ASAP)*<sup>9</sup> recommended that nerve blocks should be offered to all patients, and that departments of anaesthesia should develop evidence-based standardised approaches to spinal anaesthesia. Basildon Hospital aimed to increase the number of nerve blocks and also the number of spinal anaesthetics in hip fracture patients.

Education and awareness involved developing departmental guidelines, which were made available on the departmental drive and also in each trauma theatre. The planned quality improvement (QI) project was presented at departmental and divisional meetings, and workshops on fascia iliaca compartment blocks were carried out.

Run charts were produced monthly using data obtained from the NHFD. The nerve block and spinal rates were highlighted, with words of encouragement and feedback given. Each month, the run charts were displayed on a poster in the main trauma theatre and were also sent by email to all the anaesthetists.

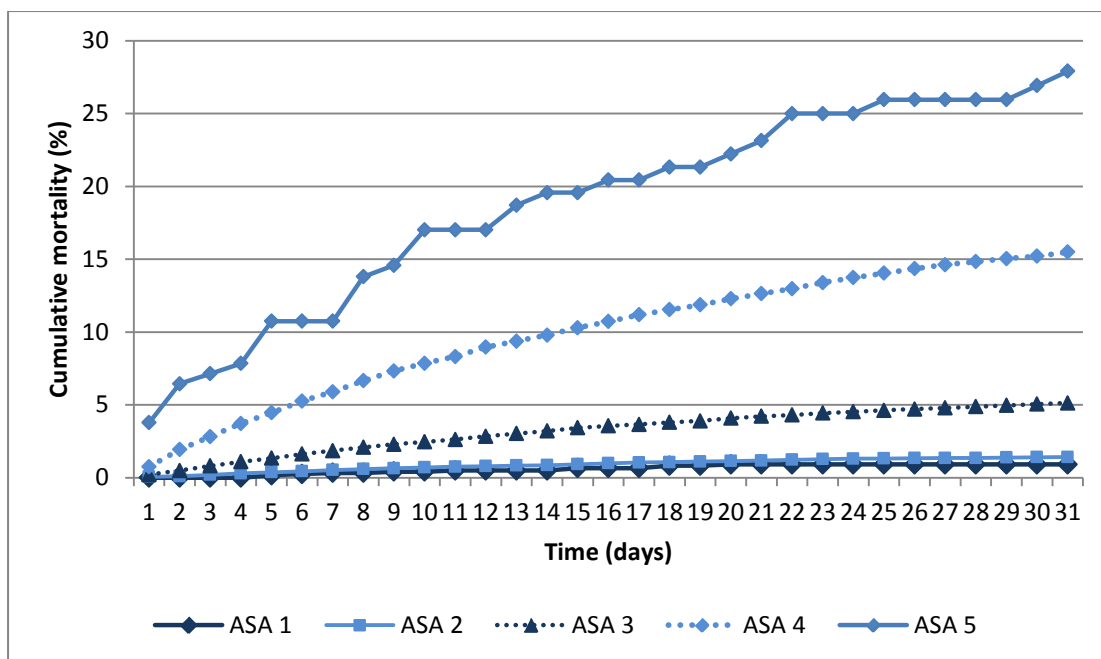
The monthly (annualised) rate of nerve blocks increased from 18.5% in 2013 to over 75% this year (higher than national rates of 42.4%). The rate of spinal anaesthetics increased from 16.0% in 2013 to an annualised rate of 69.0% this year (higher than national rates of 41.3%). These levels have been maintained and the team has begun a QI project to improve cemented arthroplasty rates using the same QI techniques.

### Understanding anaesthetic risk

Traditional figures about hip fracture surgery (such as there being a 10% risk of inpatient mortality and 30% mortality at 1 year) are widely quoted, but might encourage a pessimistic view of outcome and therapeutic nihilism in perioperative decision making.

In an analysis of data from 2015, we identified 4,018 patients who died as an inpatient. We subdivided these patients on the basis of their physical status using their ASA grade. Over half of deaths (54.8%) occurred in patients with 'severe systemic disease' (ASA 3), although overall mortality among this group was only 6.5% (2,204/33,918). An additional third (33.8%) of inpatient deaths were in patients with 'incapacitating severe disease' (ASA 4), for whom overall inpatient mortality was 16.5% (1,358/8,231).





**Fig 7** Cumulative mortality curves by ASA grade

This increased risk for ASA 4 patients might discourage surgeons and anaesthetists from offering an operation, and deter patients from agreeing to it. However, the overall risk of dying in the immediate postoperative period was only modest. Mortality at 1 and 2 days postoperatively was 1.9% and 2.8% respectively for ASA 4 patients, and just 0.5% and 0.8% respectively for ASA 3 patients. Over 97% of this frail group of ASA 4 patients survived the first 2 days after surgery, as did over 92% of patients graded as ASA 5 or ‘moribund’ (figures that might be helpful when discussing perioperative risk with patients and those close to them).

## Surgical care

### Non-operative management

Demonstration of such a low risk of perioperative mortality should encourage staff to try to ensure that even very frail patients are afforded the opportunity of optimised pain relief and restored mobility, to avoid the distress, complications of immobility and mortality over days and weeks that are seen with non-operative management. It is encouraging to see that there has been an improvement in rates of non-operative management over recent years. In part, this reflects changing practice for a number of units that previously recorded unacceptable levels of non-operative management.

In 2015 the highest rates of non-operative management were the figures of 9.6% reported in Manchester Royal infirmary and 10.5% reported in Wrexham Maelor Hospital.

Eight other units reported over 5% of their patients being managed without an operation – Bronglais Hospital, Aberystwyth; Croydon University Hospital ; Glan Clwyd Hospital, Rhyl; King’s College Hospital, London; New Cross Hospital, Wolverhampton; West Wales Hospital; Withybush Hospital, Haverfordwest; and Southport District General Hospital – two of these being units that still did not have an orthogeriatrician in 2015.

## Prompt surgery

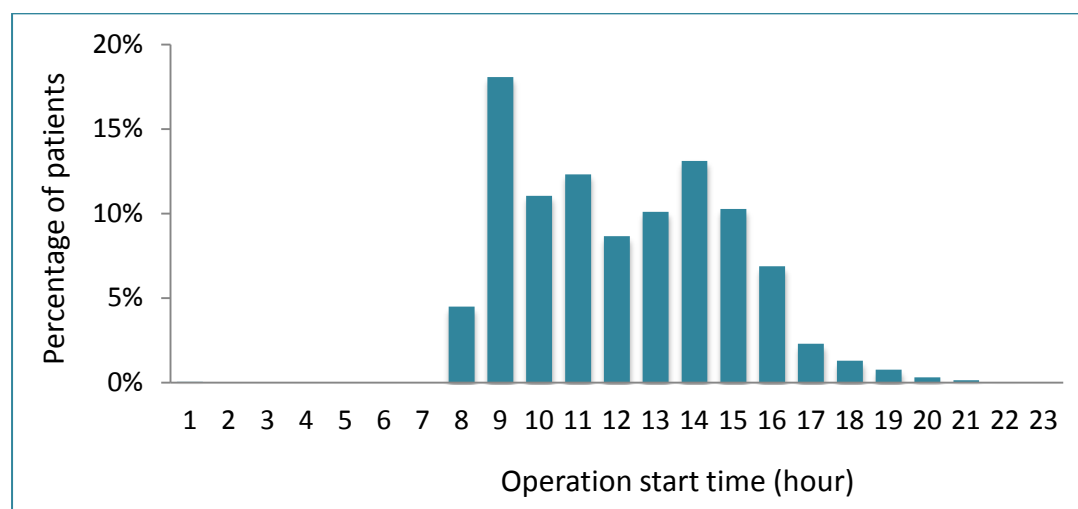
Between 2010 and 2013 the rate of surgery on the day of or the day after admission increased from 62% to 72%, but this figure has not improved since then. There remains striking variation in performance between hospitals, from 16.7% to 92.8%.

In some cases (Royal Victoria Hospital, Belfast; Ulster Hospital, Belfast; Craigavon Hospital, Portadown; and Altnagelvin Area Hospital – the four hospitals in Northern Ireland that treat people with hip fractures), this is a consequence of ‘hub and spoke’ models of hip fracture care.

In other hospitals (Bronglais Hospital, Aberystwyth; Glan Clwyd Hospital, Rhyl; Royal Gwent Hospital, Newport; North Manchester General Hospital; and Pinderfields Hospital, Wakefield), it is unclear why fewer than 50% of patients receive this standard of care.

In England, prompt surgery is a condition for BPT. Currently, 18.7% of patients fail to achieve best practice care on ‘theatre within 36 hours’ alone. Of those patients, half (5,726 patients) were delayed for administrative reasons.

NICE recommends that hip fracture surgery should take place on planned trauma lists, and the distribution of operation start time (Fig 8) would suggest that this is being followed.



**Fig 8** Operation start times by percentage of patients

Data suggest that, with proper resources, around 85% of patients could meet this standard. Six units (Pilgrim Hospital, Boston; St Helier Hospital; North Middlesex Hospital; Northumbria Specialist Emergency Care Hospital; Horton Hospital; and West Suffolk Hospital) have demonstrated achievement of this level of BPT in 2015.

Other units' failure to provide this standard of care may reflect the considerable costs associated with providing additional trauma lists, particularly in hospitals that are nominally working at full capacity.

## Surgery for displaced intracapsular fractures

Internal fixation is used in 6.9% of cases, particularly in patients aged under 70 or over 95; clinicians aim to preserve the natural joint in younger patients and to undertake a less risky procedure in older patients. In both groups, this choice is set against the risk of reoperation.

In total, 90.5% of displaced intracapsular fractures are treated with arthroplasty. Use of cemented arthroplasties for all fracture types increased from 82.3% in 2014 to 83.6% in 2015, but it still ranges from 0% to 100% between units. The figure is 85.7% with hemiarthroplasty and 81.4% with total hip replacement (THR), including hybrids. Half (46.6%) of uncemented arthroplasties are hydroxyapatite coated, rather than uncoated varieties which are now considered to be obsolete.

Provision of THR for patients with displaced intracapsular fractures remains controversial. Just over a quarter of patients (26.9%) who met the NHFD definition of eligibility (displaced intracapsular fracture; ASA 1–3; normal AMT; and previously mobile outdoors with no more than one waking aid) received THR – this is up from 26.1% in 2014, but it still ranges from 0% to 61.7% between units.

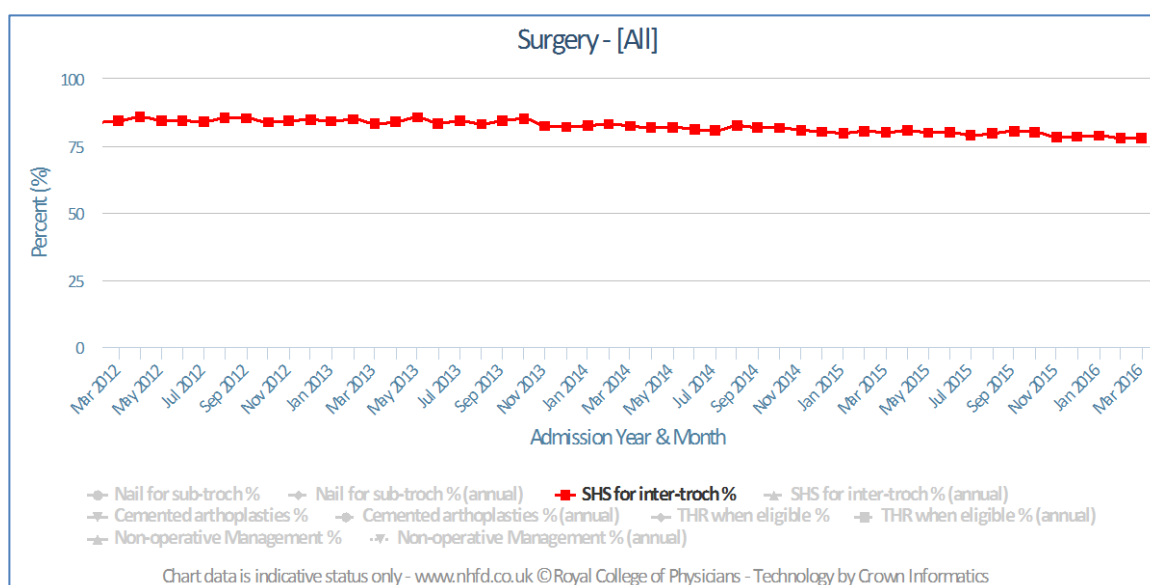
Eligibility was interpreted slightly differently in a recent *British Medical Journal* paper based on NHFD data.<sup>23</sup> This demonstrated age to be a significant factor in selection of patients for THR, despite the absence of any age limit in the NICE guidance. It also highlighted factors such as socioeconomic deprivation as contributing to unwarranted variation in provision.

An update of CG124 by NICE is currently reviewing the question of eligibility for THR – but even if we only define the fittest patients as being eligible (ASA 1–2 patients, with AMT 10/10), compliance still only reached 43.2% in 2015, and still varied between different units from 0% to 100%.

## Surgery for intertrochanteric fractures

NICE guidance recommends that A1 and A2 fractures are treated with a sliding hip screw (SHS). These fracture patterns account for over 85% of intertrochanteric fractures, but only 79.8% of intertrochanteric fractures are treated with an SHS, compared with 84% in 2013.

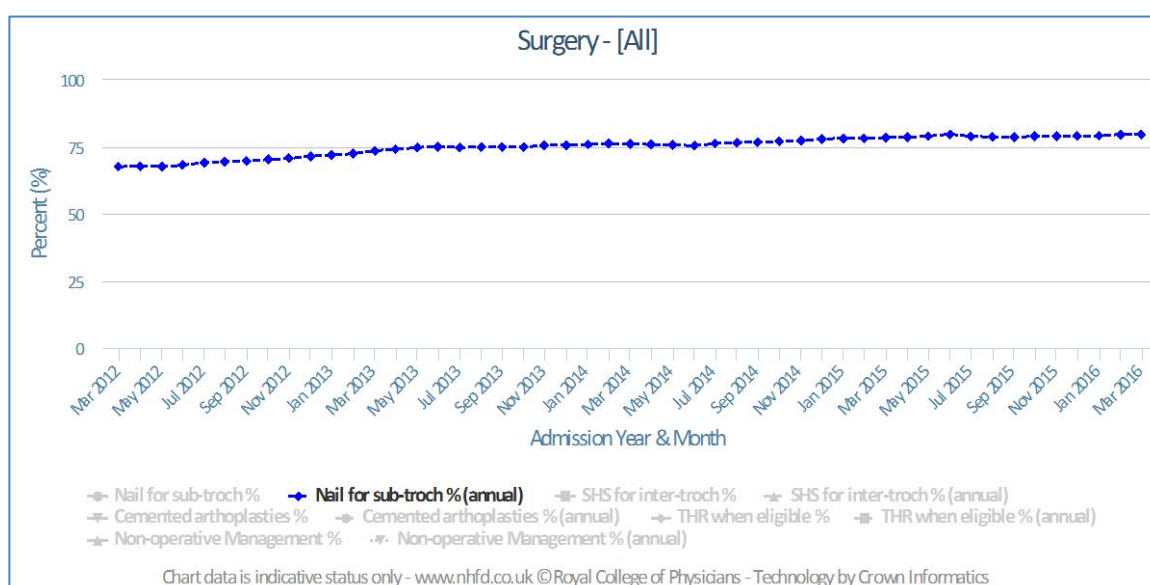
We do not know why some units have made significant changes from their use of SHSs to intramedullary (IM) nails, but it is likely that they have significantly increased their implant costs. Since outcomes for SHSs and IM nails are similar, hospitals using nails should review their choice of implants.



**Fig 9** Percentage of trochanteric fractures that were treated with an SHS

## Surgery for subtrochanteric fractures

Subtrochanteric fractures make up only 5.5% of hip fractures but they may be some of the most challenging fractures to treat surgically. IM nailing produces the best outcomes and the audit shows that there is a continuing positive trend in their use, from 70% in 2011 to 79% in 2015.



**Fig 10** Percentage of subtrochanteric fractures that were treated with IM nailing

Some units report such low rates for this approach that we must question the quality of their coding of fracture and operation type. Eight units report that fewer than one in three subtrochanteric fractures are treated with an IM nail (Princess Royal Hospital, Telford; Queen Elizabeth Hospital, Woolwich; Southport District General Hospital; Worcestershire Royal Hospital; Royal Shrewsbury Hospital; Noble's Hospital; Diana Princess of Wales Hospital, Grimsby; and University Hospital, Lewisham).

## Patient safety

### Pressure ulcer

The last NHFD report showed how some units reported low levels of pressure ulcers due to very incomplete surveillance of pressure ulcer incidence. For this reason, we highlighted units with poor completion of this aspect of their NHFD dataset.

We are now moving to an approach that combines surveillance data with data on the incidence of pressure ulcers, reporting a single figure for each unit: ‘the proportion of patients documented not to have a pressure ulcer’.

In 2015, participating hospitals recorded that 94.9% of people were free of a pressure ulcer.

Improving surveillance gives us confidence that the falling pressure ulcer incidence recorded in units’ patient safety run charts reflects real improvements in the prevention of ulcers, which is a complication that has huge implications for patients’ comfort, dignity, LOS and long-term dependency. However, three sites (County Hospital Hereford; the Royal London Hospital; and Southampton General Hospital) recorded figures of below 50% in this respect: data were absent for 96.4%, 84.3% and 67.5% of their patients respectively.

### Inpatient falls

Hip fracture outcome is especially poor for people who sustain this injury while they are an inpatient. Pre-existing medical and mental health problems often prove challenging for orthopaedic teams.

In total, 3.9% (2,511) of patients who sustained a hip fracture in 2015 were hospital inpatients at the time of their injury. A small proportion of these cases may be associated with pathological fractures sustained without a fall, but in general this figure can be seen as an indicator of the burden on the NHS of inpatient falls that result in a hip fracture.

Inter-hospital comparisons may be misleading because variation will reflect casemix variation in different wards, hospitals and trusts. The NHFD website therefore features live online performance charts that provide time series data on the numbers of inpatient hip fracture patients who are treated by each trauma unit – so that hospitals can monitor the effectiveness of local initiatives to prevent inpatient falls and hip fractures.

We reported a national figure of 4.3% in last year’s report, but changes in the way that these data are coded in the NHFD dataset mean that the reduction since then is likely to be artefactual.

The National Audit of Inpatient Falls (NAIF) audit report 2015<sup>24</sup> provides a detailed audit against NICE guidance on falls assessment and prevention (NICE clinical guidance 161)<sup>7</sup> for 4,846 records from 170 sites nationwide.

### Reoperation

Reoperation rates do not currently form part of any national standard, but they are clearly an important indicator of the quality of care. A zero reoperation rate is desirable but it is unlikely to be achievable over a sustained period owing to the inherent risks of surgery in a frail, osteoporotic patient group.

Hospitals are urged to record the most significant reoperation as a part of local quality assurance and improvement. Currently, 51.1% of all cases are identified as having been followed up for their reoperation status, with 1.1% of patients recorded as having undergone further surgery within 30 days (a slight increase on the 1% figure in 2014). In 2015, 48.9% of patients did not have these data recorded.

- Thirty-three sites (18.6%) reported that they did not know whether any of their patients had had a reoperation (Addenbrooke's Hospital; Airedale General Hospital; Bedford Hospital; Queen's Hospital, Burton upon Trent; Chesterfield Royal Hospital; Cheltenham General Hospital; Furness General Hospital; St George's Hospital; Grantham and District Hospital; Hinchingsbrooke Hospital; Homerton Hospital; Horton General Hospital; Hull Royal Infirmary; St Mary's Hospital, Isle of Wight; Leicester Royal Infirmary; Leighton Hospital, Crewe; Macclesfield General Hospital; Northwick Park Hospital; Peterborough City Hospital; Queen Elizabeth Hospital, King's Lynn; The Royal Cornwall Hospital; Royal Free Hospital; Royal Lancaster Infirmary; Scarborough General Hospital; Southampton General Hospital; Victoria Hospital, Blackpool; Warrington Hospital; Weston General Hospital; William Harvey Hospital; Whiston Hospital; Manor Hospital, Walsall; West Wales General; and Wythenshawe Hospital).
- A further 22 sites (12.4%) appear to have actively reported that 0% of their cases have been reoperated within 30 days (Broomfield Hospital, Chelmsford; Bronglais Hospital; Bassetlaw Hospital; Glan Clwyd Hospital; Craigavon Hospital; Darlington Memorial Hospital; Doncaster Royal Infirmary; University Hospital Aintree; Gwynedd Ysbyty, Bangor Hospital; Kettering General Hospital; King's Mill; Medway Maritime Hospital; Northern General Hospital, Sheffield; Noble's Hospital; Norfolk and Norwich University Hospital; Derriford Hospital, Plymouth; Rotherham District General; Sandwell General Hospital; Tameside General Hospital; Princess Royal Hospital, Telford; Whittington Hospital; and West Middlesex University Hospital).

As with our approach to pressure ulcer surveillance, it may be more appropriate to document excellence in practice – highlighting units that successfully follow up patients and are therefore able to report 'documented as no reoperation'.

Individual units (such as Basildon and Thurrock University Hospital) have shown that it is possible to demonstrate figures of as high as 98% for this combined metric, but many hospitals would report 0% because they have no data on this.

## Rehabilitation

It is relatively easy to be specific about the timing and nature of surgical and anaesthetic interventions, but it is far more challenging to define the nature of continuous processes such as rehabilitation. The frequency, intensity and form of nursing and therapist input are difficult to describe, and time pressures may limit how well these are recorded in individual patients' case notes. As a result, it is impractical and unrealistic for the NHFD's dataset to try to capture data on all 65,000 patients presenting each year.

One solution might be to perform a sprint audit. This is the approach we adopted in our 2014 collaboration with the Association of Anaesthetists of Great Britain and Ireland (AAGBI) for the

*Anaesthesia Sprint Audit of Practice (ASAP)*.<sup>9</sup> However, that audit used a dataset that was collected in theatre. In contrast, descriptions of individual patients' rehabilitation might need to be collected over a number of days and weeks, and this would further complicate the technical challenges of a sprint audit combining data from different units.

For this reason, we are adopting a different approach to rehabilitation audit. We are developing a simple audit tool that can be downloaded by individual hospitals for local use – to be launched during the autumn of 2016. This tool has been devised in consultation with the Chartered Society of Physiotherapy (CSP) and configured as a short dataset that might be completed by local therapists – gathering together extra data to complement that which the NHFD is already providing to support clinical governance processes in individual hospitals (see Table 4).

**Table 4 Physiotherapy audit standards**

AUDIT STANDARD	
1	Surgeon has documented that patient may mobilise full weight bearing (and without hip precautions if hemiarthroplasty) immediately after surgery
2	Patient transferred (standing or hoisted) out of bed on the day after operation
3	SMART rehabilitation goals documented in patient's notes within 72 hours of admission
4	Rehabilitation plan discussed by medical, nursing and therapy staff within 72 hours of admission
5	Evidence in the patient notes that rehabilitation plan includes all of the following elements
6	Patient mobilised by a member of the MDT daily (Monday-Friday), until independently mobile, unless medically or surgically contraindicated
7	Patient mobilised by a member of the MDT each day at weekends, throughout admission, unless medically or surgically contraindicated
8	Occupational therapist home environmental assessment performed before patient's return home
9	Patient discharged directly to their original residence from the trauma ward
10	Therapist-directed rehabilitation continues within a week of patient's return to their original residence (including those returning to a care home)
11	Rehabilitation continues until patient documented to have successfully returned to their pre-fracture mobility
12	Patient (or carer/family) offered printed information about their rehabilitation programme, health professionals involved and long term outcomes

These standards can be used by local teams to improve their understanding of staffing and organisational constraints, and they can be considered alongside their hospital's clinical governance programme's monthly review of other performance and outcome data.

The audit tool will be a downloadable package that can be used in an individual unit. It will provide standardised local reports that might allow different units to compare their results – without the practical and information governance constraints that would be necessary if patient data were uploaded to the NHFD and reported nationally.

### St Peter's Hospital – improving rehabilitation with orthopaedic supportive discharge

A 6-month pilot was set up in March 2014, looking at the effectiveness of an early orthopaedic supportive discharge (OSD) team for hip fractures in an attempt to reduce LOS. The project has continued beyond the 6 months, due to the excellent patient outcomes and credible evidence of financial benefits.

The pre-intervention LOS for hip fracture patients was 21.5 days (March 2013 to February 2014), compared with a national average of 19.8 days (NHFD 2014). In 22 months (March 2014 to December 2015), 356 patients (of which 185 were hip fracture patients) were discharged home with the OSD team. These patients were discharged on average 9.15 days post surgery, and this reduced LOS to 17.3 days, without a significant change in readmissions (7.89% *cf* 8.1%).

There was a significant reduction in the percentage of patients sent to the trust's rehabilitation facility from 44.2% (March 2013 to February 2014) to 20.8% (March 2014 to July 2015). From July 2015, 22 of the trust's rehabilitation beds were closed. Although the percentage of patients sent to community hospitals increased from 16% to 31% following the closures, overall there was a reduction in the percentage of patients sent to rehabilitation (previously 60%: 44% trust rehabilitation beds and 16% community hospitals).

For the period March 2014 to December 2015, 762 hip fractures presented to the trust. With a bed day costing £275, and a 4.2-day reduction in bed days (calculated as 21.5 days minus 17.3 days), the possible savings are £880,110. With the OSD costs of £344,446 during this period, this shows an overall saving of £535,664.

Of the 263 patients who responded, 99.6% provided positive feedback ('extremely likely' or 'likely' to recommend the service). One patient said: 'I wish every hospital in the land could take up this scheme. St Peter's Hospital has shown what the NHS is about, care and love for patients'.

## Clinical leadership

Three hospitals (Harrogate District Hospital; Croydon University Hospital; and University Hospital of Wales, Cardiff) have no named orthopaedic NHFD lead and eight have no named orthogeriatric lead (Glan Clwyd Hospital; Furness General Hospital; Noble's Hospital; Ulster Hospital; Princess of Wales Hospital, Bridgend; Southport District General; Princess Royal Hospital, Telford; and Victoria Hospital, Blackpool).

- Two hospitals (Craigavon Hospital, Portadown; and Royal Oldham Hospital) have a daily trauma meeting without a consultant orthopaedic surgeon.
- In total, 99 hospitals (56%) have a daily trauma meeting without a consultant anaesthetist.
- Overall, 111 hospitals (63%) have a daily trauma meeting without a consultant orthogeriatrician.
- Only 32 hospitals (18%) have all three consultant disciplines present at daily trauma meetings.
- In six hospitals (Bronglais Hospital; St George's Hospital; Horton Hospital; North Hampshire Hospital; Stepping Hill Hospital; and West Middlesex University Hospital) the emergency department is represented, and in three hospitals (Queen Elizabeth the Queen Mother



Hospital Margate; Sunderland Royal Hospital; and West Middlesex University Hospital), community rehabilitation are represented at daily meetings.

- All but 36 hospitals have consultant orthogeriatricians at weekly MDT meetings, but only 23 have an orthopaedic consultant and only four have an anaesthetic consultant present.
- Three hospitals (Royal Victoria Hospital, Belfast; Sandwell Hospital; and West Middlesex University Hospital) have three consultant disciplines present for weekly MDT meetings, but 29 hospitals have no consultants present for weekly MDT meetings.
- Monthly clinical governance meetings are without a consultant surgeon in nine units, with no consultant anaesthetist in 75 units, and with no consultant orthogeriatrician in 48 units.

## Data quality

While the scale and coverage of the NHFD means that conclusions about the quality of care can be considered to be robust, it is important to understand the complexities around a system that relies on submissions of data from 177 hospitals nationwide.

NHFD sites each have single or joint lead clinicians who are responsible for championing NHFD participation – their role will vary from unit to unit, but as a minimum will include:

- authorising access to local NHFD data
- checking the accuracy, completeness and quality of NHFD data submissions
- reviewing the annual report and online report findings, to determine which elements of hip fracture care are being delivered successfully and which require improvement
- disseminating audit findings across the team, the trust and the wider health community
- encouraging local audit and QI activity to build on NHFD findings.

Hospitals in which the lead clinician role is shared between a surgeon and an orthogeriatrician have been most successful at translating audit findings into quality improvement.

It is a concern that in 35 hospitals (20%), the lead clinician does not carry out any quality checks on data submissions to NHFD. We would strongly urge sites where this is the case to implement procedures to ensure that the quality of data is validated prior to submission. Later this year, performance run charts will be made public, at which point poor data quality will have more serious implications for providers.

Nationally, 147 hospitals (83%) have data collected by doctors or nurses during the patients' admission. There is no ideal model for managing data collection and entry, but individuals who are tasked with capturing data should be adequately trained and supported in carrying out that task – and they should be familiar with the pathways of care.

Capture of data after patients leave the acute setting is crucial to monitoring the quality of care, and it is integral to the HFP described by NICE.

Such follow-up is central to the NHFD's proposal for NHS England and Monitor's development of BPT in England, and we have consolidated the proposed follow-up timings into a single 120-day contact.

Currently, one in three hospitals (58) does not follow up their patients at all. Of the 119 hospitals that have follow-up procedures, 85 hospitals (71%) have follow-up led by doctors or nurses.

## Case ascertainment

The proportion of eligible hip fracture cases that are submitted to the NHFD is described in our performance tables as case ascertainment. Common to all national audits, this metric is by definition an estimate of the quality of case capture systems at each site. Having estimated this value using a standalone extract of HES over the previous two reports, we have made our calculations this year using a bespoke linked cohort of NHFD–HES data. Data for Wales are compared with PEDW, while data for Northern Ireland and the Isle of Man are compared with previous years' submissions.

Analyses were conducted for the 162 hospitals in England that were included in the 2015 NHFD annual report. For the period of 1 April 2011 to 31 December 2014, there were 210,356 patients with linked records between HES and NHFD.

National case ascertainment for the NHFD in England is 91.2%; but local rates vary between 44.6% and 106.3%, and sites should consider these findings in light of their local circumstances.

NHFD data submissions should include all patients who are admitted to a hospital site with a hip fracture – that would be coded by clinical coding teams as S72.0, S72.1 or S72.2.

In particular, care should be given to how the following cases are captured:

- patients treated without surgery
- patients who die before a decision to operate has been taken
- patients who fall and experience a fracture while they are an inpatient anywhere in the hospital
- patients who are transferred postoperatively to another care provider where patient records are transferred with the patient.

## Variation in casemix

Casemix describes the population that is admitted to a specific unit. Our 30-day mortality analysis uses a range of casemix factors so that units with a sicker patient population, where a higher proportion of patients would be expected to die, are fairly compared with those units that serve a fitter population.

Casemix is therefore a crucial element of data quality, but it is difficult for us to monitor centrally. Only local teams will know whether the casemix profile of their population is accurate. Coding of age and sex is likely to be robust, but coding of casemix factors such as ASA grade and mobility needs to be monitored by local lead clinicians – otherwise poor quality data might lead to a site being incorrectly identified as a mortality outlier, or it could mask poor outcome.

Table 5 shows the national casemix profile for all patients in the NHFD. Some variation from this profile is expected; however we would strongly encourage sites to review their own data in comparison with the national data.

**Table 5 Casemix summary**

2015		
Gender	Male	28.4%
	Female	71.6%
Age	60–69	9.0%
	70–79	22.5%
	80–89	46.0%
	90+	22.5%
ASA completed	ASA known	95.8%
	ASA unknown	4.2%
ASA grade	ASA 1	2.0%
	ASA 2	25.4%
	ASA 3	54.4%
	ASA 4	13.6%
	ASA 5	0.4%
Walking ability	Without aids	36.4%
	1 aid	21.9%
	2 aids/frame	14.8%
	Some indoor mobility but never goes outside without help	23.7%
	No functional mobility (using lower limbs)	1.7%
	Missing or unknown	1.5%
Fracture type	Intracapsular undisplaced	10.1%
	Intracapsular displaced	49.1%
	Intertrochanteric	34.3%
	Sub-trochanteric	6.3%
	Missing	0.2%

## Annual summary tables

Quartile (national)	Colour grading
Top 25%	
2nd quartile	
3rd quartile	
Lowest 25%	

Colour coding and grading allows readers to see how their hospital is performing – in quartiles compared with national performance.

Tables are colour coded when performance figures can be set against clear definitions of best clinical practice or NICE quality standards.

We highlight units in the 'top performing quarter of hospitals' (dark green) and in the 'worst performing quarter of hospitals' (dark red).

Performance figures for falls prevention and bone health assessment are generally very good, and this means that they are not normally distributed.

The lowest quartile would include units that are reporting figures as high as 98%. As a result, for these two columns we have confined our use of dark red to units that are reporting figures of less than 90%. In 2015 this 'worst performance' category included 17 sites with less than 90% for falls assessment, and 13 sites with less than 90% for bone health assessment.

## Ward management

East Midlands									
	Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)	Met all the criteria for best practice tariff (%)
Chesterfield Royal Hospital	CHE	424	43.6	96.5	94.3	49.1	99.0	99.3	62.0
Royal Derby Hospital	DER	575	61.3	98.1	95.1	49.3	99.6	100.0	79.1
Grantham and District Hospital	GRA	92	73.3	70.7	34.8	89.0	57.5	55.2	17.7
Kettering General Hospital	KGH	352	68.9	97.2	81.5	60.9	97.0	96.7	58.9
King's Mill Hospital, Sutton-in-Ashfield	KMH	341	75.0	94.7	64.5	95.0	98.7	99.4	38.1
Leicester Royal Infirmary	LER	793	24.7	95.8	84.4	88.5	95.4	92.7	48.4
Lincoln County Hospital	LIN	378	59.3	99.5	91.5	75.4	100.0	99.7	77.5
Northampton General Hospital	NTH	372	32.1	98.9	90.1	52.3	98.5	99.4	61.5
Pilgrim Hospital, Boston	PIL	318	81.5	99.4	98.1	58.6	100.0	100.0	89.5
University Hospital Nottingham	UHN	795	69.4	97.9	95.2	68.1	98.5	98.4	72.8
East Midlands (Average)		4440	58.9	94.9	83.0	68.6	94.4	94.1	60.6
Overall (Average)		64864	43.9	94.9	87.5	76.1	97.0	97.2	65.6

East of England	Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)	Met all the criteria for best practice tariff (%)
Addenbrooke's Hospital, Cambridge	ADD	275	24.0	99.6	97.1	99.3	99.6	100.0	78.1
Basildon and Thurrock University Hospital	BAS	394	9.8	99.2	94.2	92.5	100.0	100.0	64.0
Bedford Hospital	BED	147	56.0	98.6	84.4	79.0	97.2	98.6	60.8
Broomfield Hospital, Chelmsford	BFH	469	53.2	92.1	90.0	96.1	99.8	99.3	27.3
Colchester General Hospital	COL	582	42.2	97.1	91.1	74.7	98.2	98.2	59.1
East and North Herts Hospital	ENH	420	44.4	99.5	98.1	71.3	100.0	100.0	82.3
Hinchingbrooke Hospital	HIN	187	62.4	100.0	92.5	79.4	100.0	100.0	71.7
Ipswich Hospital	IPS	433	70.9	98.6	93.1	95.4	99.3	99.8	67.0
James Paget University Hospital, Great Yarmouth	JPH	393	28.1	98.5	91.9	48.3	99.4	99.4	56.7
Luton and Dunstable Hospital	LDH	295	18.4	96.3	98.0	62.9	100.0	99.6	72.7
Norfolk and Norwich University Hospital	NOR	831	35.6	98.7	96.1	97.3	99.0	99.1	61.1
The Princess Alexandra Hospital, Harlow	PAH	365	17.8	99.7	90.1	97.6	100.0	98.0	68.0
Peterborough City Hospital	PET	416	68.3	99.5	88.5	97.0	99.7	100.0	72.5
Queen Elizabeth Hospital, King's Lynn	QKL	386	65.7	99.2	93.0	77.0	98.9	98.9	80.5
Southend University Hospital	SEH	430	36.4	95.6	72.6	77.8	94.7	91.1	37.0
Watford General Hospital	WAT	380	46.9	99.7	99.2	88.8	100.0	100.0	81.6
West Suffolk Hospital, Bury St Edmunds	WSH	340	58.5	99.1	97.6	80.2	99.7	100.0	85.1
East of England (Average)		6743	43.4	98.3	92.2	83.2	99.1	98.9	66.2
Overall (Average)		64864	43.9	94.9	87.5	76.1	97.0	97.2	65.6

London	Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)	Met all the criteria for best practice tariff (%)
Barnet Hospital	BNT	370	19.5	99.7	97.6	51.3	99.7	100.0	82.5
Princess Royal University Hospital, Bromley	BRO	361	34.1	98.1	95.3	58.8	99.4	100.0	67.2
Ealing Hospital	EAL	154	40.3	100.0	92.2	80.0	99.3	99.3	64.6
St George's Hospital	GEO	256	26.7	94.5	89.8	64.5	100.0	100.0	46.7
Queen Elizabeth Hospital, Woolwich	GWH	318	7.3	99.1	97.5	90.6	100.0	100.0	69.9
Hillingdon Hospital	HIL	181	42.3	91.7	88.4	68.2	87.4	95.8	73.0
Homerton Hospital	HOM	75	0.0	82.7	93.3	48.1	98.4	98.4	57.3
King's College Hospital	KCH	153	21.0	82.4	94.8	37.2	100.0	100.0	48.0
Kingston Hospital	KTH	330	26.2	99.7	98.2	89.1	99.7	99.7	84.1
University Hospital, Lewisham	LEW	159	2.7	99.4	93.1	81.3	99.3	99.3	50.9
The Royal London Hospital	LON	166	7.1	96.4	95.2	46.7	100.0	99.3	48.6
Croydon University Hospital	MAY	237	5.4	97.5	97.9	50.8	100.0	97.7	60.1
North Middlesex University Hospital	NMH	238	43.6	100.0	98.7	95.3	100.0	100.0	86.3
Northwick Park Hospital	NPH	296	21.1	99.7	97.3	64.6	99.3	99.3	77.4
Newham General Hospital	NWG	107	12.6	100.0	95.3	65.8	100.0	100.0	70.1
Queen's Hospital, Romford	OLD	544	54.7	99.1	86.8	97.6	100.0	98.8	52.1
Royal Free Hospital	RFH	190	44.7	94.7	94.7	63.2	97.8	97.2	61.9
St Helier Hospital, Carshalton	SHC	414	27.2	99.3	96.6	87.1	99.2	99.2	88.2
St Thomas' Hospital	STH	167	69.9	90.4	82.0	98.3	98.7	97.4	59.6
St Mary's Hospital, Paddington	STM	232	10.2	90.1	94.4	32.9	100.0	100.0	60.5
University College Hospital	UCL	145	41.6	86.2	94.5	79.7	98.5	97.7	62.0
Chelsea and Westminster Hospital	WES	206	0.0	100.0	83.0	48.4	100.0	100.0	57.3
Whipps Cross University Hospital	WHC	310	2.7	98.7	96.8	59.1	100.0	99.6	70.9
Whittington Hospital	WHT	111	16.7	84.7	94.6	95.7	99.1	100.0	73.5
West Middlesex University Hospital	WMU	207	39.9	92.8	73.9	92.1	100.0	99.5	36.5
London (Average)		5927	24.7	95.1	92.9	69.9	99.0	99.1	64.4
Overall (Average)		64864	43.9	94.9	87.5	76.1	97.0	97.2	65.6

North East		Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)	Met all the criteria for best practice tariff (%)
Darlington Memorial Hospital		DAR	328	55.2	99.7	85.1	75.2	99.0	98.7	65.5
University Hospital Of North Durham, Darlington		DRY	376	47.9	98.9	93.4	61.4	99.4	99.1	73.1
Northumbria Specialist Emergency Care Hospital		NSE	632	62.6	99.5	98.3	94.9	100.0	100.0	86.3
University Hospital of North Tees, Stockton on Tees		NTG	412	79.8	100.0	93.2	95.4	100.0	100.0	68.4
Queen Elizabeth Hospital, Gateshead		QEG	325	61.6	99.1	95.1	98.2	100.0	100.0	80.5
Royal Victoria Hospital, Newcastle		RVN	465	27.6	95.9	90.1	63.7	97.4	98.6	72.4
James Cook University Hospital, Middlesbrough		SCM	482	83.7	98.8	92.7	94.7	100.0	99.8	68.4
South Tyneside District Hospital, South Shields		STD	222	48.7	98.6	95.9	60.5	99.5	100.0	70.0
Sunderland Royal Hospital		SUN	414	66.2	99.0	97.8	82.9	100.0	100.0	78.0
North East (Average)			3656	59.3	98.8	93.5	80.8	99.5	99.6	73.6
Overall (Average)			64864	43.9	94.9	87.5	76.1	97.0	97.2	65.6



North West	Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)	Met all the criteria for best practice tariff (%)
Royal Albert Edward Infirmary, Wigan	AEI	308	64.7	100.0	96.8	90.7	100.0	100.0	79.9
Royal Blackburn Hospital	BLA	474	72.7	100.0	91.4	81.5	100.0	99.8	69.9
Royal Bolton Hospital	BOL	349	68.0	98.9	96.0	96.2	99.1	100.0	65.8
Cumberland Infirmary, Carlisle	CMI	474	31.6	96.8	92.4	84.1	99.8	99.1	61.5
Countess of Chester Hospital	COC	362	24.5	98.3	94.8	62.8	100.0	99.1	69.9
University Hospital Aintree	FAZ	403	49.2	98.5	89.6	70.3	98.6	99.2	76.5
Furness General Hospital, Barrow-in-Furness	FGH	107	53.9	94.4	75.7	59.6	97.1	98.0	53.2
Leighton Hospital, Crewe	LGH	238	73.0	98.3	57.6	58.0	100.0	87.8	41.8
Macclesfield General Hospital	MAC	141	48.2	95.0	88.7	62.9	98.5	95.4	65.9
Manchester Royal Infirmary	MRI	208	37.5	96.2	83.2	83.0	97.8	94.4	52.0
North Manchester General Hospital	NMG	358	45.2	98.9	98.0	64.5	100.0	99.1	45.8
Noble's Hospital, Isle of Man	NOB	97	65.3	53.6	0.0	94.4	98.9	98.9	NA
Royal Oldham Hospital	OHM	379	40.3	98.4	93.9	96.7	99.1	98.0	55.1
Royal Lancaster Infirmary	RLI	310	73.4	98.7	87.7	92.0	100.0	99.3	57.7
Royal Liverpool University Hospital	RLU	422	29.0	99.5	96.4	82.0	100.0	100.0	80.4
Royal Preston Hospital	RPH	412	66.4	100.0	79.1	100.0	99.7	100.0	54.4
Stepping Hill Hospital, Stockport	SHH	407	40.9	99.3	91.2	65.8	99.7	98.7	70.2
Salford Royal Hospital	SLF	322	53.4	98.1	96.6	72.3	100.0	99.3	71.8
Southport District General Hospital	SOU	295	39.5	96.3	51.5	91.0	99.2	82.2	39.2
Tameside General Hospital, Manchester	TGA	277	50.2	100.0	82.7	90.2	98.8	98.5	63.7
Victoria Hospital, Blackpool	VIC	381	74.6	98.4	26.5	99.8	90.7	91.0	13.9
Warrington Hospital	WDG	330	49.1	96.7	91.2	54.9	98.4	94.5	69.7
Whiston Hospital, Prescot	WHI	378	33.1	97.4	82.8	58.7	92.7	96.8	45.1
Arrowe Park Hospital, Wirral	WIR	491	33.3	98.8	94.9	55.8	98.0	97.5	71.3
Wythenshawe Hospital, Manchester	WYT	343	41.3	100.0	93.6	61.5	100.0	100.0	73.5
North West (Average)		8266	50.3	96.4	81.3	77.1	98.6	97.1	60.3
Overall (Average)		64864	43.9	94.9	87.5	76.1	97.0	97.2	65.6

Northern Ireland		Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)
Altnagelvin Area Hospital		ALT	377	31.8	65.5	53.6	92.3	88.1	100.0
Craigavon Hospital, Portadown		CRG	327	35.5	88.7	73.1	97.4	97.8	94.9
Ulster Hospital, Belfast		NUH	365	46.4	61.9	54.5	27.1	79.2	86.3
Royal Victoria Hospital, Belfast		RVB	854	32.1	47.3	88.3	97.3	96.9	61.6
Northern Ireland (Average)			1923	36.5	65.9	67.4	78.5	90.5	85.7
Overall (Average)			64864	43.9	94.9	87.5	76.1	97.0	97.2

South Central		Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)	Met all the criteria for best practice tariff (%)
Horton Hospital, Banbury		HOR	204	29.7	100.0	98.0	61.2	100.0	100.0	85.8
St Mary's Hospital, Isle of Wight		IOW	209	75.6	100.0	55.0	97.2	67.3	98.5	38.3
Milton Keynes General Hospital		MKH	242	34.6	100.0	94.6	85.3	99.5	100.0	69.4
Basingstoke and North Hampshire Hospital		NHH	284	33.0	96.8	93.0	77.9	98.2	93.4	68.4
Queen Alexandra Hospital, Portsmouth		QAP	692	67.0	99.9	99.9	96.7	100.0	100.0	82.0
John Radcliffe Hospital, Oxford		RAD	512	3.9	97.5	94.9	77.1	98.8	99.0	60.4
Royal Berkshire Hospital, Reading		RBE	425	24.9	98.6	97.9	52.4	99.8	99.5	75.5
Royal Hampshire County Hospital, Winchester		RHC	237	52.4	98.3	90.7	63.3	93.3	92.9	75.9
Southampton General Hospital		SGH	591	48.1	99.5	98.3	94.5	100.0	100.0	73.5
Stoke Mandeville Hospital, Aylesbury		SMV	367	40.9	99.5	96.2	97.2	99.4	99.4	58.4
Wexham Park Hospital, Slough		WEX	409	9.2	100.0	98.8	94.4	100.0	100.0	83.6
South Central (Average)			4172	38.1	99.1	92.5	81.6	96.0	98.4	70.1
Overall (Average)			64864	43.9	94.9	87.5	76.1	97.0	97.2	65.6

South East		Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)	Met all the criteria for best practice tariff (%)
Conquest Hospital, Hastings		CGH	523	39.2	99.4	90.8	52.4	100.0	97.3	76.5
Darent Valley Hospital, Dartford		DVH	334	21.1	99.4	89.5	67.6	100.0	100.0	75.2
East Surrey Hospital, Redhill		ESU	464	34.2	98.5	98.7	90.5	99.5	98.9	82.8
Frimley Park Hospital, Camberley		FRM	436	33.3	98.4	89.9	96.9	100.0	99.7	69.7
Medway Maritime Hospital		MDW	345	51.8	95.4	90.4	93.7	99.4	99.0	64.6
Queen Elizabeth the Queen Mother Hospital, Margate		QEQ	482	47.7	99.8	92.5	57.4	99.8	99.8	62.2
Royal Sussex County Hospital, Brighton		RSC	557	38.2	99.1	95.0	90.1	100.0	100.0	72.1
Royal Surrey County Hospital, Guildford		RSU	309	19.6	98.4	96.4	78.0	99.7	99.7	84.0
St Peter's Hospital, Chertsey		SPH	402	56.9	99.3	99.3	75.2	99.7	99.7	79.6
St Richard's Hospital, Chichester		STR	391	14.6	97.7	96.2	74.7	99.2	99.2	77.9
Maidstone and Tunbridge Wells Hospital		TUN	510	39.0	99.8	98.0	64.5	99.4	99.4	72.7
William Harvey Hospital, Ashford		WHH	446	35.4	98.4	97.1	73.4	100.0	100.0	69.0
Worthing and Southlands Hospital		WRG	492	77.0	100.0	98.8	77.2	100.0	100.0	78.6
South East (Average)			5691	39.1	98.7	94.8	76.3	99.7	99.4	74.2
Overall (Average)			64864	43.9	94.9	87.5	76.1	97.0	97.2	65.6

South West	Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)	Met all the criteria for best practice tariff (%)
Royal United Hospital, Bath	BAT	572	43.3	99.7	99.1	59.1	99.4	99.3	74.8
Bristol Royal Infirmary	BRI	320	45.8	99.7	84.4	71.1	98.6	98.9	65.1
Cheltenham General Hospital	CHG	234	76.5	100.0	89.7	73.7	100.0	100.0	62.3
Southmead Hospital, Bristol	FRY	521	29.9	97.9	94.4	77.5	100.0	99.4	73.8
Gloucestershire Royal Hospital, Gloucester	GLO	478	64.7	97.1	96.4	73.6	99.8	99.5	69.5
Musgrove Park Hospital, Taunton	MPH	390	74.7	95.9	94.6	71.9	99.5	99.2	69.9
North Devon District Hospital, Barnstaple	NDD	223	66.8	78.0	62.3	82.0	99.0	97.6	31.3
Poole General Hospital	PGH	963	61.8	99.9	99.3	98.2	99.9	99.6	74.4
Derriford Hospital, Plymouth	PLY	441	61.9	99.3	96.8	98.9	99.8	100.0	72.9
The Great Western Hospital, Swindon	PMS	475	39.0	99.2	96.2	82.7	100.0	99.8	72.5
The Royal Cornwall Hospital, Treliske	RCH	668	75.2	98.4	92.8	41.1	100.0	98.5	62.4
Royal Devon and Exeter Hospital, Exeter	RDE	593	61.5	99.2	97.5	89.2	100.0	99.5	73.5
Salisbury District Hospital	SAL	309	57.4	98.4	97.7	86.9	99.7	100.0	83.1
Torbay District General Hospital	TOR	466	15.6	98.1	94.2	75.8	100.0	100.0	66.5
Dorset County Hospital, Dorchester	WDH	325	65.0	98.2	92.3	76.9	98.3	96.7	77.8
Weston General Hospital, Weston-super-Mare	WGH	291	0.0	99.0	83.8	61.9	100.0	99.2	63.0
Yeovil District Hospital	YEO	286	46.3	99.0	65.4	57.1	71.9	97.8	25.0
South West (Average)		7555	52.1	97.5	90.4	75.2	98.0	99.1	65.8
Overall (Average)		64864	43.9	94.9	87.5	76.1	97.0	97.2	65.6

Wales	Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)
Bronglais Hospital, Aberystwyth	BRG	111	42.9	92.8	84.7	57.5	78.3	99.1
Glan Clwyd Hospital, Rhyl	CLW	315	12.5	73.3	0.3	62.3	0.0	80.6
Royal Gwent Hospital, Newport	GWE	300	12.4	64.3	13.7	60.2	81.0	82.5
Gwynedd Ysbyty, Bangor	GWY	336	44.2	66.4	60.7	65.3	91.0	98.4
Morriston Hospital, Swansea	MOR	476	20.4	90.1	65.8	41.6	96.3	96.3
Nevill Hall Hospital, Abergavenny	NEV	291	20.8	69.8	80.4	63.0	98.4	100.0
Prince Charles Hospital, Merthyr Tydfil	PCH	222	66.2	20.3	20.3	75.2	25.0	55.5
Princess of Wales Hospital, Bridgend	POW	257	14.3	44.4	5.4	51.2	79.1	60.4
Royal Glamorgan Hospital, Llantrisant	RGH	231	67.0	55.8	22.9	63.0	68.4	81.6
University Hospital of Wales, Cardiff	UHW	458	7.1	84.9	67.0	51.7	94.1	98.0
Wrexham Maelor Hospital	WRX	277	39.4	82.7	53.1	72.4	72.6	70.6
West Wales General Hospital, Carmarthen	WWG	157	28.0	66.2	63.1	91.5	80.9	98.7
Withybush Hospital, Haverfordwest	WYB	212	30.2	51.4	13.2	60.2	20.5	56.3
Wales (Average)		3643	31.2	66.3	42.4	62.7	68.1	82.9
Overall (Average)		64864	43.9	94.9	87.5	76.1	97.0	97.2

West Midlands	Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)	Met all the criteria for best practice tariff (%)
Queen's Hospital, Burton upon Trent	BRT	294	62.1	89.1	79.6	39.7	99.3	99.3	51.2
Birmingham Heartlands Hospital	EBH	468	34.0	95.3	85.5	70.2	94.2	96.7	45.4
Good Hope Hospital, Birmingham	GHS	360	28.0	81.4	80.8	61.8	95.1	92.0	32.9
County Hospital, Hereford	HCH	247	40.4	90.7	64.8	79.4	95.6	96.0	42.0
New Cross Hospital, Wolverhampton	NCR	464	38.7	94.6	91.2	88.9	97.1	99.0	65.8
George Eliot Hospital, Nuneaton	NUN	242	39.8	100.0	95.0	77.3	100.0	100.0	70.7
Queen Elizabeth Hospital, Edgbaston	QEB	461	63.1	96.7	87.6	61.2	100.0	100.0	55.7
Alexandra Hospital, Redditch	RED	300	47.1	95.3	89.3	87.6	98.9	98.9	60.1
Royal Shrewsbury Hospital	RSS	411	44.7	99.8	95.9	95.0	99.7	99.7	71.4
Russells Hall Hospital, Dudley	RUS	525	43.4	92.0	93.3	67.3	100.0	98.5	64.2
Sandwell General Hospital	SAN	334	70.3	96.4	94.9	87.7	99.4	99.4	69.3
Royal Stoke University Hospital	STO	738	22.1	93.5	89.0	92.2	99.6	99.9	61.5
Princess Royal Hospital, Telford	TLF	221	61.1	92.8	64.7	91.2	81.9	88.2	23.7
University Hospital Coventry	UHC	556	26.3	99.6	81.3	96.4	98.8	98.0	61.9
Warwick Hospital	WAR	360	68.7	95.6	95.8	82.8	99.7	99.7	69.9
Manor Hospital, Walsall	WMH	329	41.4	95.7	91.5	82.3	99.3	99.3	55.8
Worcestershire Royal Hospital, Worcester	WRC	417	14.5	95.7	90.6	63.7	100.0	99.0	59.7
West Midlands (Average)		6727	43.9	94.4	86.5	77.9	97.6	97.9	56.5
Overall (Average)		64864	43.9	94.9	87.5	76.1	97.0	97.2	65.6

Yorks and the Humber	Hospital code	Number of cases submitted	Admitted to orthopaedic ward within 4 hours (%)	Mental test score recorded on admission (%)	Perioperative medical assessment (%)	Mobilised out of bed on the day after surgery (%)	Received falls assessment (%)	Received bone health assessment (%)	Met all the criteria for best practice tariff (%)
Airedale General Hospital	AIR	266	34.6	95.5	86.1	89.2	99.6	98.8	55.0
Barnsley Hospital	BAR	296	57.0	99.7	93.6	91.9	100.0	100.0	72.8
Bradford Royal Infirmary	BRD	321	75.8	99.7	96.6	94.1	99.7	100.0	82.1
Bassetlaw Hospital	BSL	171	38.3	98.2	96.5	94.4	100.0	100.0	76.7
Doncaster Royal Infirmary	DID	388	34.8	99.2	92.8	74.3	100.0	99.2	64.1
Diana Princess of Wales Hospital, Grimsby	GGH	293	50.7	85.7	77.5	48.4	100.0	97.8	47.7
Harrogate District Hospital	HAR	262	86.3	98.1	71.4	83.7	95.9	95.5	50.0
Hull Royal Infirmary	HRI	611	49.4	99.0	81.0	79.3	96.8	96.8	48.2
Huddersfield Royal Infirmary	HUD	524	56.6	97.5	91.2	74.8	88.9	97.2	55.9
Leeds General Infirmary	LGI	695	55.1	99.0	87.2	67.8	99.8	98.8	69.3
Northern General Hospital, Sheffield	NGS	583	15.6	99.7	91.8	47.8	99.8	99.2	72.1
Pinderfields General Hospital, Wakefield	PIN	557	30.8	98.9	93.7	38.8	100.0	99.0	38.2
Rotherham District General Hospital	ROT	271	68.6	98.5	85.6	54.0	100.0	99.2	66.1
Scarborough General Hospital	SCA	286	26.7	99.7	95.8	84.7	99.6	99.6	75.3
Scunthorpe General Hospital	SCU	240	61.2	99.6	80.8	95.6	100.0	96.5	49.4
York Hospital	YDH	357	63.4	100.0	96.9	78.7	100.0	100.0	74.5
Yorks and the Humber (Average)		6121	50.3	98.0	88.7	74.8	98.8	98.6	62.3
Overall (Average)		64864	43.9	94.9	87.5	76.1	97.0	97.2	65.6

## Surgery and anaesthesia

East Midlands											
	Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Chesterfield Royal Hospital	CHE	424	74.5	33.0	55.7	62.3	15.5	80.4	19.8	98.1	86.4
Royal Derby Hospital	DER	575	82.1	8.3	43.8	87.0	34.2	99.3	26.7	93.8	47.9
Grantham and District Hospital	GRA	92	79.3	17.4	62.5	75.0	81.2	87.8	31.3	96.2	100.0
Kettering General Hospital	KGH	352	77.8	66.5	80.8	21.6	46.1	90.6	9.7	97.6	88.9
King's Mill Hospital, Sutton-in-Ashfield	KMH	341	77.7	40.2	73.0	56.9	64.4	28.3	12.1	62.1	43.3
Leicester Royal Infirmary	LER	793	60.3	54.9	70.1	39.8	35.1	95.9	12.9	76.0	68.8
Lincoln County Hospital	LIN	378	82.3	51.1	57.0	44.7	49.1	53.1	33.3	76.2	78.9
Northampton General Hospital	NTH	372	70.2	41.4	9.1	53.8	7.5	78.2	57.4	80.9	71.4
Pilgrim Hospital, Boston	PIL	318	89.3	37.4	80.7	55.7	59.9	77.0	17.4	92.3	81.3
University Hospital Nottingham	UHN	795	76.1	62.0	94.1	35.7	93.0	87.1	19.3	84.8	97.8
East Midlands (Average)		4440	77.0	41.2	62.7	53.3	48.6	77.8	24.0	85.8	76.5
Overall (Average)		64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2



East of England	Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Addenbrooke's Hospital, Cambridge	ADD	275	80.4	52.0	72.0	5.5	13.3	99.3	21.4	95.0	94.4
Basildon and Thurrock University Hospital	BAS	394	70.1	38.3	27.2	59.9	52.5	65.3	47.4	97.8	90.0
Bedford Hospital	BED	147	66.0	72.1	84.0	23.8	45.7	90.4	14.7	50.0	83.3
Broomfield Hospital, Chelmsford	BFH	469	70.0	48.0	52.0	8.7	0.0	88.6	27.0	73.0	100.0
Colchester General Hospital	COL	582	67.5	70.6	39.4	26.8	14.1	96.3	8.0	69.4	79.5
East and North Herts Hospital	ENH	420	82.9	33.6	28.4	64.8	20.6	95.3	36.0	97.1	97.6
Hinchingbrooke Hospital	HIN	187	80.2	54.0	93.1	42.2	94.9	40.8	20.0	95.8	87.5
Ipswich Hospital	IPS	433	71.1	65.6	89.8	30.3	9.2	99.6	2.1	94.2	73.7
James Paget University Hospital, Great Yarmouth	JPH	393	60.3	46.6	25.7	47.1	7.0	93.5	23.7	81.3	95.8
Luton and Dunstable Hospital	LDH	295	72.9	50.2	77.7	46.8	0.7	94.1	17.5	72.2	96.3
Norfolk and Norwich University Hospital	NOR	831	68.7	60.3	65.5	30.4	16.6	86.4	16.8	66.5	83.3
The Princess Alexandra Hospital, Harlow	PAH	365	75.9	48.2	35.2	47.4	14.5	70.4	29.0	91.5	91.3
Peterborough City Hospital	PET	416	81.5	51.9	78.2	47.1	90.8	69.2	0.0	41.5	62.5
Queen Elizabeth Hospital, King's Lynn	QKL	386	84.5	48.2	94.1	51.3	79.3	99.0	33.8	97.2	91.3
Southend University Hospital	SEH	430	64.9	62.3	79.1	34.7	29.5	96.4	27.8	72.2	61.1
Watford General Hospital	WAT	380	82.1	34.5	57.3	54.5	24.6	87.8	3.8	33.6	95.0
West Suffolk Hospital, Bury St Edmunds	WSH	340	88.2	88.2	73.0	10.6	66.7	97.6	21.1	94.4	92.0
East of England (Average)		6743	74.5	54.4	63.0	37.2	34.1	86.5	20.6	77.8	86.7
Overall (Average)		64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2

London	Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Barnet Hospital	BNT	370	83.5	87.8	92.3	10.0	13.5	6.2	27.0	80.6	90.3
Princess Royal University Hospital, Bromley	BRO	361	83.7	34.6	84.0	57.6	7.7	64.2	15.7	86.5	80.0
Ealing Hospital	EAL	154	70.1	42.9	1.5	50.6	1.3	96.9	28.6	81.6	69.2
St George's Hospital	GEO	256	58.2	66.8	83.0	22.7	34.5	95.8	16.7	72.2	85.7
Queen Elizabeth Hospital, Woolwich	GWH	318	71.7	35.2	76.8	49.7	55.1	92.7	4.6	41.9	33.3
Hillingdon Hospital	HIL	181	80.1	12.2	54.5	82.3	27.5	70.1	10.9	64.2	71.4
Homerton Hospital	HOM	75	78.7	54.7	9.8	38.7	3.4	85.7	10.0	65.8	100.0
King's College Hospital	KCH	153	68.6	66.7	52.9	15.0	4.3	93.6	13.0	66.2	70.0
Kingston Hospital	KTH	330	83.0	42.7	47.5	49.7	36.6	95.9	16.9	94.7	62.5
University Hospital, Lewisham	LEW	159	54.7	55.3	70.5	38.4	80.3	80.0	20.8	83.1	14.3
The Royal London Hospital	LON	166	56.6	73.5	47.5	15.7	11.5	82.0	45.5	69.4	90.0
Croydon University Hospital	MAY	237	63.7	43.5	68.9	47.3	8.9	78.5	21.6	88.0	95.0
North Middlesex University Hospital	NMH	238	89.5	50.0	50.4	47.5	42.5	0.0	61.7	84.9	100.0
Northwick Park Hospital	NPH	296	75.0	91.9	0.7	4.7	0.0	100.0	5.8	96.9	88.9
Newham General Hospital	NWG	107	72.9	36.4	53.8	55.1	22.0	92.5	17.9	85.7	71.4
Queen's Hospital, Romford	OLD	544	58.1	23.2	72.2	19.1	14.4	67.4	8.6	58.0	74.2
Royal Free Hospital	RFH	190	71.6	76.3	53.1	19.5	16.2	97.5	17.1	96.3	100.0
St Helier Hospital, Carshalton	SHC	414	87.9	58.7	27.2	35.3	6.8	79.8	23.3	81.3	96.9
St Thomas' Hospital	STH	167	76.6	64.1	49.5	21.6	11.1	24.6	55.0	87.1	81.8
St Mary's Hospital, Paddington	STM	232	62.9	53.9	68.8	34.9	9.9	94.5	21.6	74.0	73.3
University College Hospital	UCL	145	88.3	58.6	91.8	36.6	62.3	90.7	26.7	38.5	100.0
Chelsea and Westminster Hospital	WES	206	72.3	24.8	54.9	67.5	24.5	98.9	35.3	66.7	100.0
Whipps Cross University Hospital	WHC	310	79.0	81.6	80.6	14.5	24.4	88.2	22.2	92.2	78.6
Whittington Hospital	WHT	111	92.8	37.8	54.8	57.7	23.4	0.0	25.0	64.4	60.0
West Middlesex University Hospital	WMU	207	52.7	83.6	2.3	15.5	40.6	89.6	4.9	100.0	77.8
London (Average)		5927	73.3	54.3	54.0	36.3	23.3	74.6	22.3	76.8	78.6
Overall (Average)		64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2

North East											
	Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Darlington Memorial Hospital	DAR	328	78.7	38.4	81.7	57.3	66.5	86.6	9.2	74.8	66.7
University Hospital Of North Durham, Darlington	DRY	376	76.3	60.9	66.4	34.0	44.5	96.3	9.8	84.9	87.0
Northumbria Specialist Emergency Care Hospital	NSE	632	88.6	41.3	34.9	49.7	8.3	99.4	21.7	89.1	90.9
University Hospital of North Tees, Stockton on Tees	NTG	412	72.8	18.9	61.5	73.8	21.7	61.9	28.6	73.9	82.9
Queen Elizabeth Hospital, Gateshead	QEG	325	82.8	60.9	91.9	34.5	74.1	98.6	16.1	62.1	81.8
Royal Victoria Hospital, Newcastle	RVN	465	77.6	86.7	98.5	5.6	88.5	99.0	43.5	72.2	63.2
James Cook University Hospital, Middlesbrough	SCM	482	70.7	76.6	1.1	17.4	2.4	99.2	23.9	72.1	77.8
South Tyneside District Hospital, South Shields	STD	222	75.7	15.3	91.2	80.6	73.2	93.1	29.5	78.4	87.5
Sunderland Royal Hospital	SUN	414	80.0	32.9	55.9	65.2	45.2	88.7	17.6	79.2	75.0
North East (Average)		3656	78.1	48.0	64.8	46.5	47.2	91.4	22.2	76.3	79.2
Overall (Average)		64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2

North West	Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Royal Albert Edward Infirmary, Wigan	AEI	308	82.8	66.2	26.5	31.2	18.8	92.1	18.5	90.2	76.9
Royal Blackburn Hospital	BLA	474	75.7	5.5	42.3	87.1	54.0	97.4	18.3	92.4	71.4
Royal Bolton Hospital	BOL	349	69.1	36.7	12.5	58.5	7.8	99.3	13.7	84.1	92.3
Cumberland Infirmary, Carlisle	CMI	474	68.3	43.2	18.0	48.5	5.2	96.8	20.6	87.1	95.2
Countess of Chester Hospital	COC	362	76.0	24.6	21.3	68.5	4.4	98.8	33.8	72.5	83.3
University Hospital Aintree	FAZ	403	85.4	86.8	86.9	10.7	32.6	92.0	34.4	82.9	80.6
Furness General Hospital, Barrow-in-Furness	FGH	107	85.0	38.3	43.9	52.3	16.1	14.3	18.8	79.4	20.0
Leighton Hospital, Crewe	LGH	238	72.7	82.4	84.7	14.3	67.6	92.7	37.7	78.1	72.7
Macclesfield General Hospital	MAC	141	75.7	47.5	70.1	43.3	24.6	100.0	9.7	67.3	50.0
Manchester Royal Infirmary	MRI	208	53.4	33.2	78.3	54.3	68.1	89.0	38.5	87.2	37.5
North Manchester General Hospital	NMG	358	44.4	27.1	41.2	68.2	72.1	85.0	40.8	85.4	75.0
Noble's Hospital, Isle of Man	NOB	97	81.4	77.3	16.0	4.1	25.0	94.9	14.3	66.7	21.4
Royal Oldham Hospital	OHM	379	64.3	38.3	33.8	55.9	22.6	96.9	30.2	58.9	91.2
Royal Lancaster Infirmary	RLI	310	67.4	63.9	65.7	33.9	7.6	50.0	37.7	81.0	77.8
Royal Liverpool University Hospital	RLU	422	80.8	89.1	92.3	7.1	23.3	88.0	43.7	70.1	96.1
Royal Preston Hospital	RPH	412	66.4	26.5	47.7	72.1	38.7	99.5	56.4	94.6	97.3
Stepping Hill Hospital, Stockport	SHH	407	79.1	61.4	62.4	35.4	20.8	88.2	37.9	96.2	72.7
Salford Royal Hospital	SLF	322	71.7	44.1	83.8	50.9	75.6	89.5	39.6	63.7	94.1
Southport District General Hospital	SOU	295	73.8	25.4	72.0	41.0	12.4	67.8	19.7	81.8	29.5
Tameside General Hospital, Manchester	TGA	277	67.1	15.5	58.1	76.2	8.5	92.6	11.1	73.7	76.9
Victoria Hospital, Blackpool	VIC	381	57.5	22.6	15.1	60.6	9.1	100.0	7.4	80.0	50.0
Warrington Hospital	WDG	330	77.9	79.4	61.8	12.1	12.5	89.8	23.2	82.4	72.0
Whiston Hospital, Prescot	WHI	378	68.8	73.0	90.6	21.2	73.8	78.9	30.5	83.6	95.0
Arrowe Park Hospital, Wirral	WIR	491	77.2	63.7	83.1	23.4	14.8	97.2	21.1	73.5	84.6
Wythenshawe Hospital, Manchester	WYT	343	76.1	73.2	49.4	18.4	25.4	92.0	15.5	90.9	73.7
North West (Average)		8266	71.9	49.8	54.3	42.0	29.7	87.3	26.9	80.1	71.5
Overall (Average)		64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2

Northern Ireland		Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Altnagelvin Area Hospital		ALT	377	26.5	97.8	28.1	70.7	92.6
Craigavon Area Hospital, Portadown		CRG	327	28.4	91.2	26.1	64.0	78.6
Ulster Hospital, Belfast		NUH	365	16.7	93.9	24.1	84.6	47.4
Royal Victoria Hospital, Belfast		RVB	854	30.2	98.2	30.5	70.3	94.1
Northern Ireland (Average)			1923	25.5	95.3	27.2	72.4	78.2
Overall (Average)			64864	71.5	83.6	26.9	79.8	79.2

South Central		Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Horton Hospital, Banbury		HOR	204	89.2	78.4	58.1	21.6	31.8	100.0	35.1	92.3	100.0
St Mary's Hospital, Isle of Wight		IOW	209	74.2	13.4	32.1	77.0	45.3	99.1	30.6	95.6	87.5
Milton Keynes General Hospital		MKH	242	73.6	72.3	49.1	22.3	9.3	95.8	35.4	78.9	81.3
Basingstoke and North Hampshire Hospital		NHH	284	82.4	38.0	31.5	56.3	22.5	85.4	50.0	83.9	89.7
Queen Alexandra Hospital, Portsmouth		QAP	692	82.1	39.5	65.2	55.5	50.8	38.0	24.3	95.2	98.0
John Radcliffe Hospital, Oxford		RAD	512	69.3	58.6	64.3	34.8	3.4	85.5	40.8	86.4	90.3
Royal Berkshire Hospital, Reading		RBE	425	78.1	89.2	44.1	5.4	34.8	2.1	30.4	73.3	38.5
Royal Hampshire County Hospital, Winchester		RHC	237	83.1	49.4	68.4	44.7	15.1	73.6	20.7	86.7	76.9
Southampton General Hospital		SGH	591	72.8	49.7	36.1	43.0	7.1	96.2	60.0	2.1	95.0
Stoke Mandeville Hospital, Aylesbury		SMV	367	60.2	61.9	95.6	29.7	58.7	70.0	51.5	83.2	88.9
Wexham Park Hospital, Slough		WEX	409	82.6	36.9	31.1	58.9	34.9	51.1	44.4	95.9	92.9
South Central (Average)			4172	77.1	53.4	52.3	40.8	28.5	72.4	38.5	79.4	85.4
Overall (Average)			64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2

South East	Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Conquest Hospital, Hastings	CGH	523	85.9	20.8	72.5	62.7	5.8	97.1	23.8	92.7	51.4
Darent Valley Hospital, Dartford	DVH	334	81.7	28.7	8.3	65.9	0.9	93.3	20.4	95.8	42.9
East Surrey Hospital, Redhill	ESU	464	82.8	76.1	74.2	17.7	19.5	88.7	27.6	88.9	80.0
Frimley Park Hospital, Camberley	FRM	436	75.9	21.1	34.8	73.6	17.4	83.9	24.2	71.5	66.7
Medway Maritime Hospital	MDW	345	71.0	17.4	85.0	73.3	7.9	78.9	25.0	88.1	60.0
Queen Elizabeth the Queen Mother Hospital, Margate	QEQ	482	68.5	43.4	94.3	34.4	22.3	86.9	13.1	85.7	67.6
Royal Sussex County Hospital, Brighton	RSC	557	81.7	7.2	82.5	92.5	68.7	96.4	44.8	46.1	100.0
Royal Surrey County Hospital, Guildford	RSU	309	85.8	40.5	78.4	48.9	10.6	93.6	18.8	94.3	93.5
St Peter's Hospital, Chertsey	SPH	402	81.6	71.1	59.4	18.4	0.0	8.6	21.2	42.0	87.5
St Richard's Hospital, Chichester	STR	391	78.5	45.5	54.5	50.1	8.7	88.1	55.7	87.5	100.0
Maidstone and Tunbridge Wells Hospital	TUN	510	76.3	20.4	47.1	75.3	3.9	92.9	22.6	83.7	80.0
William Harvey Hospital, Ashford	WHH	446	74.2	20.0	53.9	73.3	11.3	64.5	30.7	92.5	96.7
Worthing and Southlands Hospital	WRG	492	75.6	65.7	38.4	30.7	12.6	92.2	34.1	96.7	86.2
South East (Average)		5691	78.4	36.8	60.3	55.1	14.6	81.9	27.8	82.0	77.9
Overall (Average)		64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2

South West	Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Royal United Hospital, Bath	BAT	572	73.1	30.1	50.6	64.2	50.1	89.3	19.1	94.8	64.3
Bristol Royal Infirmary	BRI	320	72.2	85.0	93.4	9.7	45.2	96.8	41.4	38.4	86.4
Cheltenham General Hospital	CHG	234	71.8	61.1	72.0	28.6	10.4	100.0	31.7	80.8	87.5
Southmead Hospital, Bristol	FRY	521	79.1	84.6	81.0	10.6	40.0	98.6	43.8	88.2	90.2
Gloucestershire Royal Hospital, Gloucester	GLO	478	73.2	46.4	81.1	50.4	14.1	98.5	53.3	59.2	85.7
Musgrove Park Hospital, Taunton	MPH	390	86.7	59.0	17.8	30.8	35.0	88.1	43.8	94.5	94.1
North Devon District Hospital, Barnstaple	NDD	223	77.6	76.7	83.0	13.9	9.7	87.6	22.5	96.3	61.5
Poole General Hospital	PGH	963	69.7	93.0	25.7	4.9	27.7	85.6	19.2	82.8	100.0
Derriford Hospital, Plymouth	PLY	441	71.2	49.9	91.4	8.4	73.0	97.4	23.6	90.7	36.7
The Great Western Hospital, Swindon	PMS	475	80.8	31.6	31.3	64.2	21.6	98.1	44.9	91.9	94.1
The Royal Cornwall Hospital, Treliske	RCH	668	65.9	51.8	84.7	38.0	36.2	90.9	34.9	70.0	85.9
Royal Devon and Exeter Hospital, Exeter	RDE	593	72.5	49.7	62.0	33.2	11.7	100.0	32.1	75.8	87.7
Salisbury District Hospital	SAL	309	83.5	65.0	83.6	21.4	27.3	90.8	23.1	82.4	80.0
Torbay District General Hospital	TOR	466	71.2	22.3	44.2	41.0	35.1	98.4	21.0	77.9	84.2
Dorset County Hospital, Dorchester	WDH	325	87.0	53.5	33.3	41.2	13.4	87.3	9.5	81.2	85.0
Weston General Hospital, Weston-super-Mare	WGH	291	75.3	46.0	29.1	50.5	22.4	93.2	32.7	94.8	87.0
Yeovil District Hospital	YEO	286	72.0	62.2	91.6	33.2	10.5	97.3	31.7	80.0	80.0
South West (Average)		7555	75.5	56.9	62.1	32.0	28.4	94.0	31.1	81.2	81.8
Overall (Average)		64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2

Wales	Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Bronglais Hospital, Aberystwyth	BRG	111	33.3	56.8	11.1	33.3	18.9	100.0	59.1	90.5	100.0
Glan Clwyd Hospital, Rhyl	CLW	315	49.8	46.0	80.7	35.6	39.3	71.0	10.4	74.0	93.8
Royal Gwent Hospital, Newport	GWE	300	44.8	30.0	47.8	68.0	56.4	96.4	16.4	82.6	91.7
Gwynedd Ysbyty, Bangor	GWY	336	69.0	76.5	13.6	19.0	6.3	83.1	26.1	90.2	85.7
Morriston Hospital, Swansea	MOR	476	67.9	87.6	68.8	8.0	26.3	85.3	23.2	78.0	67.6
Nevill Hall Hospital, Abergavenny	NEV	291	70.7	50.2	59.6	45.0	51.1	71.1	39.5	91.1	83.3
Prince Charles Hospital, Merthyr Tydfil	PCH	222	68.5	38.3	83.5	56.8	68.3	20.9	6.3	94.2	100.0
Princess of Wales Hospital, Bridgend	POW	257	50.2	89.1	97.4	9.3	100.0	99.1	6.3	96.3	71.4
Royal Glamorgan Hospital, Llantrisant	RGH	231	59.3	62.8	77.9	33.3	35.1	59.4	42.4	94.9	95.2
University Hospital of Wales, Cardiff	UHW	458	63.3	41.0	59.0	52.2	57.3	89.8	33.8	82.0	79.4
Wrexham Maelor Hospital	WRX	277	62.1	58.5	6.8	29.2	7.4	84.8	36.2	84.0	71.4
West Wales General Hospital, Carmarthen	WWG	157	64.3	21.7	0.0	66.2	1.0	62.3	20.0	79.5	75.0
Withybush Hospital, Haverfordwest	WYB	212	64.2	58.0	53.7	35.4	24.0	96.1	47.4	91.6	75.0
Wales (Average)		3643	59.0	55.1	50.8	37.8	37.8	78.4	28.2	86.8	83.8
Overall (Average)		64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2



West Midlands	Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Queen's Hospital, Burton upon Trent	BRT	294	71.8	61.2	68.3	9.9	72.4	93.0	16.9	90.5	57.1
Birmingham Heartlands Hospital	EBH	468	65.7	78.0	41.4	13.5	30.2	76.6	21.7	46.3	75.9
Good Hope Hospital, Birmingham	GHS	360	57.9	75.0	40.4	12.8	15.2	62.0	17.1	88.1	55.6
County Hospital, Hereford	HCH	247	69.9	4.5	45.5	74.5	10.9	100.0	27.4	79.1	50.0
New Cross Hospital, Wolverhampton	NCR	464	75.9	68.3	51.7	24.4	13.3	58.1	32.3	89.8	82.4
George Eliot Hospital, Nuneaton	NUN	242	70.7	36.4	73.9	57.4	26.6	97.4	0.0	90.6	90.0
Queen Elizabeth Hospital, Edgbaston	QEB	461	65.1	77.4	57.7	16.9	24.4	94.9	31.5	61.2	68.4
Alexandra Hospital, Redditch	RED	300	69.0	44.0	49.2	48.0	15.3	40.6	42.0	97.2	93.3
Royal Shrewsbury Hospital	RSS	411	71.5	58.4	7.5	31.9	0.0	47.0	16.3	87.5	25.6
Russells Hall Hospital, Dudley	RUS	525	71.8	19.8	34.6	73.1	9.9	89.0	17.5	83.1	50.0
Sandwell General Hospital	SAN	334	71.6	9.6	68.8	85.6	83.2	71.0	25.0	76.0	84.6
Royal Stoke University Hospital	STO	738	69.6	69.1	69.4	23.4	17.3	43.5	44.4	96.9	66.7
Princess Royal Hospital, Telford	TLF	221	61.1	75.1	16.3	16.3	36.1	47.6	28.6	88.9	33.3
University Hospital Coventry	UHC	556	75.5	60.4	94.9	35.3	96.4	98.9	37.4	91.9	94.0
Warwick Hospital	WAR	360	80.3	53.6	23.3	31.4	18.6	0.6	42.5	83.3	78.6
Manor Hospital, Walsall	WMH	329	59.3	61.4	79.2	35.6	19.7	88.1	14.6	97.5	100.0
Worcestershire Royal Hospital, Worcester	WRC	417	67.9	36.9	85.7	47.0	39.3	82.0	18.6	95.2	26.3
West Midlands (Average)		6727	69.1	52.3	53.4	37.5	31.1	70.0	25.5	84.9	66.6
Overall (Average)		64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2

Yorks and the Humber	Hospital code	Number of cases submitted	Surgery on day of, or day after, admission (%)	General anaesthetic (%)	General anaesthetic and nerve block (%)	Spinal anaesthetic (%)	Spinal anaesthetic and nerve block (%)	Proportion of arthroplasties which are cemented (%)	Eligible displaced intracapsular fractures treated with THR (%)	Intertrochanteric fractures treated with SHS (%)	Subtrochanteric fractures treated with an IM nail (%)
Airedale General Hospital	AIR	266	70.7	47.4	38.1	50.4	33.6	97.4	28.6	77.8	87.0
Barnsley Hospital	BAR	296	75.7	45.6	49.6	50.0	51.4	79.2	37.5	82.8	92.3
Bradford Royal Infirmary	BRD	321	84.4	41.1	86.4	55.1	88.7	95.4	35.0	89.8	96.0
Bassetlaw Hospital	BSL	171	82.5	11.1	0.0	83.0	0.7	100.0	11.8	95.8	75.0
Doncaster Royal Infirmary	DID	388	68.3	49.7	4.7	45.9	9.0	93.7	9.8	93.5	38.5
Diana Princess of Wales Hospital, Grimsby	GGH	293	74.1	69.6	43.1	26.3	32.5	63.5	18.3	82.9	73.7
Harrogate District Hospital	HAR	262	79.0	48.9	68.8	47.7	44.8	86.9	46.4	90.9	96.4
Hull Royal Infirmary	HRI	611	57.1	53.0	29.6	34.5	18.5	91.9	30.2	71.1	88.2
Huddersfield Royal Infirmary	HUD	524	69.1	59.5	14.4	32.6	76.0	99.6	20.0	51.4	98.1
Leeds General Infirmary	LGI	695	75.3	39.9	67.5	40.7	44.9	99.0	16.7	72.2	63.0
Northern General Hospital, Sheffield	NGS	583	74.4	17.5	67.6	79.2	63.4	96.0	37.7	92.8	75.0
Pinderfields General Hospital, Wakefield	PIN	557	38.8	39.3	91.3	56.4	74.2	65.5	35.6	42.3	93.2
Rotherham District General Hospital	ROT	271	78.2	20.7	50.0	76.4	5.8	75.9	38.3	47.0	66.7
Scarborough General Hospital	SCA	286	76.2	51.0	29.5	45.8	15.3	80.5	44.1	82.7	94.1
Scunthorpe General Hospital	SCU	240	62.5	28.3	44.1	66.3	16.4	82.1	16.2	52.0	90.0
York Hospital	YDH	357	77.0	52.9	32.3	44.3	8.2	70.0	28.6	93.2	87.5
Yorks and the Humber (Average)		6121	71.5	42.2	44.8	52.2	36.5	86.0	28.4	76.1	82.2
Overall (Average)		64864	71.5	50.4	58.1	41.3	32.5	83.6	26.9	79.8	79.2

## Outcomes

This year's outcomes tables include two new columns:

- 1 Pressure ulcer reporting now takes the form of a single column documenting excellence in practice by combining surveillance and pressure ulcer prevention in a single measure: *'Documented not to have developed a pressure ulcer'*.
- 2 Effectiveness of procedures for follow-up of outcome is documented in the form of a single column *'Documented final discharge destination'* that identifies the proportion of patients for whom either local documentation of discharge destination or 120-day follow-up provide an indication of patients' final destination following final discharge.

East Midlands												
	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Chesterfield Royal Hospital	CHE	424	90.4	18.7	19.6	45.2	0.0	98.5	4.7	67.0	5.2	6.6
Royal Derby Hospital	DER	575	90.9	12.1	20.9	52.4	1.1	97.6	12.0	90.1	6.8	5.3
Grantham and District Hospital	GRA	92	44.6	16.4	16.4	65.8	0.0	90.8	1.1	95.7	4.3	5.7
Kettering General Hospital	KGH	352	91.4	21.2	21.8	51.0	0.0	98.2	8.0	77.0	6.3	6.1
King's Mill Hospital, Sutton-in-Ashfield	KMH	341	91.9	17.2	25.6	41.9	0.0	97.8	3.2	86.2	6.2	6.1
Leicester Royal Infirmary	LER	793	93.9	12.8	14.0	38.5	0.0	96.4	5.8	58.6	8.4	8.1
Lincoln County Hospital	LIN	378	90.8	18.4	19.0	59.8	0.3	97.5	3.4	96.8	6.9	8.6
Northampton General Hospital	NTH	372	93.1	20.3	24.8	45.2	3.1	89.4	4.6	89.2	5.9	5.5
Pilgrim Hospital, Boston	PIL	318	95.5	17.5	17.5	67.9	0.3	98.6	7.9	94.0	6.6	7.4
University Hospital Queens Medical Centre	UHN	795	94.7	16.4	16.8	56.0	0.9	98.9	0.4	71.7	6.8	5.9
East Midlands (Average)		4440	87.7	17.1	19.6	52.4	0.6	96.4	5.1	82.6	6.3	6.5
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

East of England												
	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Addenbrooke's Hospital, Cambridge	ADD	275	81.6	15.1	15.4	68.5	0.0	81.6	1.8	73.1	4.4	2.5
Basildon and Thurrock University Hospital	BAS	394	94.4	16.1	17.3	46.5	2.1	98.6	4.6	92.4	9.1	8.7
Bedford Hospital	BED	147	66.7	17.7	17.7	65.5	0.0	95.8	3.4	84.4	2.0	2.9
Broomfield Hospital, Chelmsford	BFH	469	91.3	7.6	16.8	81.0	0.0	98.4	4.1	86.4	8.5	9.0
Colchester General Hospital	COL	582	93.9	15.2	15.2	63.5	0.2	95.6	3.8	86.1	6.4	6.9
East and North Herts Hospital	ENH	420	101.8	14.5	15.0	57.5	2.1	97.4	2.1	88.8	6.9	6.4
Hinchingbrooke Hospital	HIN	187	92.3	22.1	22.1	59.9	0.0	95.8	1.1	96.3	9.6	11.0
Ipswich Hospital	IPS	433	94.6	16.0	16.2	59.2	0.7	99.0	3.5	90.3	5.3	4.6
James Paget University Hospital, Great Yarmouth	JPH	393	97.2	18.1	21.8	53.8	2.6	95.8	2.5	94.9	6.4	5.9
Luton and Dunstable Hospital	LDH	295	92.5	15.9	16.1	50.6	0.7	100.0	0.3	74.2	7.1	7.9
Norfolk and Norwich University Hospital	NOR	831	94.4	16.1	17.0	50.5	0.0	99.1	3.1	66.2	7.2	8.2
The Princess Alexandra Hospital, Harlow	PAH	365	95.4	17.7	18.1	59.8	2.6	89.5	3.8	75.6	4.9	5.5
Peterborough City Hospital	PET	416	92.8	12.4	12.4	60.1	0.0	98.7	1.7	78.1	7.7	8.5
Queen Elizabeth Hospital, King's Lynn	QKL	386	96.4	12.4	12.6	44.9	0.0	99.5	1.0	69.7	6.2	6.8
Southend University Hospital	SEH	430	67.2	13.9	14.2	60.1	0.2	83.6	2.1	81.9	6.7	7.5
Watford General Hospital	WAT	380	94.7	14.2	15.0	36.6	1.3	97.8	0.8	71.1	3.2	3.9
West Suffolk Hospital, Bury St Edmunds	WSH	340	93.7	14.5	17.0	73.6	0.3	97.2	4.7	96.2	5.9	6.7
East of England (Average)		6743	90.6	15.3	16.5	58.3	0.8	95.5	2.6	82.7	6.3	6.6
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

London	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Barnet Hospital	BNT	370	92.9	15.4	26.1	41.1	2.8	96.0	1.6	88.9	5.4	7.0
Princess Royal University Hospital, Bromley	BRO	361	91.0	15.2	15.9	54.3	0.6	99.1	3.3	72.3	6.6	7.1
Ealing Hospital	EAL	154	97.0	19.8	19.8	60.6	1.3	99.3	5.2	77.9	7.8	10.0
St George's Hospital	GEO	256	100.0	9.1	20.8	52.7	0.0	96.6	3.5	74.2	7.4	6.3
Queen Elizabeth Hospital, Woolwich	GWH	318	80.1	15.5	19.8	53.8	0.7	87.2	3.1	86.2	8.5	10.7
Hillingdon Hospital	HIL	181	92.3	18.4	25.5	53.0	1.2	85.6	1.7	81.2	4.4	5.0
Homerton Hospital	HOM	75	83.1	21.7	22.8	66.7	0.0	98.4	1.3	94.7	13.3	10.8
King's College Hospital	KCH	153	82.5	25.5	30.2	44.4	1.4	92.3	5.2	86.3	9.2	7.8
Kingston Hospital	KTH	330	87.1	15.1	16.1	62.8	0.3	100.0	5.8	80.6	6.7	10.7
University Hospital, Lewisham	LEW	159	91.3	22.9	23.9	38.0	0.6	96.5	5.0	64.8	7.5	7.1
The Royal London Hospital	LON	166	85.6	26.3	37.1	63.2	1.3	13.6	9.0	97.0	9.6	7.1
Croydon University Hospital	MAY	237	92.0	19.6	19.6	65.8	1.4	83.6	4.2	85.2	8.9	10.1
North Middlesex University Hospital	NMH	238	91.6	18.2	19.2	52.5	1.7	95.3	2.5	81.1	8.0	10.2
Northwick Park Hospital	NPH	296	90.4	10.0	24.4	44.6	0.0	86.4	4.4	69.3	5.4	8.1
Newham General Hospital	NWG	107	93.0	14.3	23.0	53.3	3.7	93.8	4.7	84.1	9.3	11.9
Queen's Hospital, Romford	OLD	544	88.9	10.9	25.6	64.5	0.2	96.7	2.2	95.0	4.6	5.9
Royal Free Hospital	RFH	190	85.4	15.4	15.4	53.5	0.0	93.9	4.2	63.2	7.4	7.2
St Helier Hospital, Carshalton	SHC	414	94.1	20.6	21.7	44.8	2.5	98.7	4.8	69.1	8.7	6.5
St Thomas' Hospital	STH	167	90.7	13.7	15.8	77.9	1.9	96.8	6.6	85.0	6.6	8.0
St Mary's Hospital, Paddington	STM	232	83.1	8.6	18.8	53.1	1.8	98.6	6.5	71.1	10.8	9.9
University College Hospital	UCL	145	88.5	17.9	19.0	53.8	2.1	87.8	5.5	69.0	8.3	12.0
Chelsea and Westminster Hospital	WES	206	87.0	27.0	30.0	44.9	1.0	93.2	2.9	76.7	5.8	8.3
Whipps Cross University Hospital	WHC	310	89.8	20.0	23.6	32.8	2.9	91.5	6.1	63.2	7.4	7.3
Whittington Hospital	WHT	111	79.9	14.5	14.5	59.2	0.0	95.3	1.8	71.2	2.7	2.9
West Middlesex University Hospital	WMU	207	86.1	16.4	17.1	84.8	0.0	98.0	2.4	94.7	2.9	3.9
London (Average)		5927	88.9	17.3	21.8	55.0	1.2	91.0	4.1	79.3	7.3	8.1
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

North East												
	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Darlington Memorial Hospital	DAR	328	104.9	10.7	20.5	53.2	0.0	98.7	3.0	82.0	7.6	6.7
University Hospital Of North Durham, Darlington	DRY	376	105.3	13.5	25.4	48.3	1.1	98.8	5.9	91.2	6.4	4.7
Northumbria Specialist Emergency Care Hospital	NSE	632	NA	5.0	24.8	47.6	2.1	99.1	7.0	83.9	9.8	9.9
University Hospital of North Tees, Stockton on Tees	NTG	412	92.6	17.7	22.3	59.2	0.3	88.4	3.6	91.3	7.3	5.2
Queen Elizabeth Hospital, Gateshead	QEG	325	92.7	18.3	19.0	66.4	1.6	93.4	1.8	99.7	9.5	9.6
Royal Victoria Hospital, Newcastle	RVN	465	93.9	10.3	23.5	49.4	1.0	91.4	5.4	90.1	6.5	4.6
James Cook University Hospital, Middlesbrough	SCM	482	93.3	15.7	16.3	45.6	0.2	93.3	2.9	69.1	7.5	7.5
South Tyneside District Hospital, South Shields	STD	222	93.2	16.5	25.6	53.2	3.3	93.8	10.4	86.5	9.9	10.8
Sunderland Royal Hospital	SUN	414	90.1	18.4	19.0	60.0	0.5	94.7	4.3	84.3	8.9	7.9
North East (Average)		3656	95.8	14.0	21.8	53.7	1.1	94.6	4.9	86.5	8.2	7.4
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

North West												
	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Royal Albert Edward Infirmary, Wigan	AEI	308	93.0	13.8	13.9	43.0	0.7	100.0	2.3	93.8	7.5	7.9
Royal Blackburn Hospital	BLA	474	86.9	16.1	27.0	48.5	0.2	99.3	3.6	98.1	7.8	7.6
Royal Bolton Hospital	BOL	349	90.5	16.6	17.1	55.3	1.2	99.7	4.3	94.3	6.3	4.7
Cumberland Infirmary, Carlisle	CMI	474	92.0	14.0	16.7	46.1	2.4	94.7	3.0	64.3	8.0	6.6
Countess of Chester Hospital	COC	362	92.2	13.0	28.2	42.9	1.1	97.8	3.6	92.3	5.5	6.4
University Hospital Aintree	FAZ	403	93.2	15.6	20.7	52.7	0.0	95.6	4.2	90.3	8.9	8.5
Furness General Hospital, Barrow-in-Furness	FGH	107	78.1	28.2	28.2	62.2	0.0	94.1	0.0	91.6	2.8	3.5
Leighton Hospital, Crewe	LGH	238	83.1	18.0	20.2	39.9	0.0	75.6	0.8	73.9	6.3	6.5
Macclesfield General Hospital	MAC	141	91.7	18.7	22.3	43.5	0.0	96.2	4.3	73.0	10.6	9.2
Manchester Royal Infirmary	MRI	208	90.2	24.3	36.2	42.9	1.6	94.4	12.5	88.5	6.3	4.7
North Manchester General Hospital	NMG	358	92.0	18.7	24.4	37.8	3.8	94.8	7.3	82.1	7.5	7.0
Noble's Hospital, Isle of Man	NOB	97	NA	13.4	80.2	6.3	0.0	88.8	0.0	76.3	5.2	4.5
Royal Oldham Hospital	OHM	379	88.7	14.3	18.4	49.8	1.1	96.9	1.3	78.4	6.6	6.6
Royal Lancaster Infirmary	RLI	310	83.1	15.2	28.1	52.7	0.0	97.6	2.6	87.4	6.1	7.3
Royal Liverpool University Hospital	RLU	422	93.3	16.6	18.3	49.8	1.7	99.7	4.7	78.2	8.5	7.9
Royal Preston Hospital	RPH	412	92.0	18.7	19.5	42.4	1.5	96.9	2.7	89.8	6.8	8.0
Stepping Hill Hospital, Stockport	SHH	407	106.3	23.4	24.2	33.3	0.5	98.7	6.1	62.2	5.4	4.3
Salford Royal Hospital	SLF	322	92.7	16.7	18.8	45.5	2.8	96.6	6.8	87.6	6.2	5.3
Southport District General Hospital	SOU	295	91.4	16.7	19.4	39.6	1.8	100.0	1.4	97.3	10.2	9.1
Tameside General Hospital, Manchester	TGA	277	80.8	13.7	13.9	49.4	0.0	98.8	5.1	66.8	4.7	4.4
Victoria Hospital, Blackpool	VIC	381	72.9	20.1	27.9	55.1	0.0	95.1	0.3	97.6	8.1	10.7
Warrington Hospital	WDG	330	91.8	17.8	18.8	43.3	0.0	88.3	5.5	69.4	6.1	6.3
Whiston Hospital, Prescot	WHI	378	91.8	19.5	23.2	39.6	0.0	98.3	3.4	73.3	9.0	8.4
Arrowe Park Hospital, Wirral	WIR	491	94.3	18.2	22.5	49.7	3.6	94.6	3.7	80.2	7.7	7.2
Wythenshawe Hospital, Manchester	WYT	343	91.4	20.5	24.3	66.8	0.0	95.9	3.5	98.8	6.4	6.0
North West (Average)		8266	89.7	17.7	24.5	45.5	1.0	95.5	3.7	83.4	7.0	6.7
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3



Northern Ireland											
	Hospital code	Number of cases submitted	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Altnagelvin Area Hospital	ALT	377	13.0	25.2	34.0	0.6	98.0	4.0	91.8	4.8	4.8
Craigavon Hospital, Portadown	CRG	327	11.6	24.0	50.0	0.0	100.0	2.8	97.2	4.0	5.5
Ulster Hospital, Belfast	NUH	365	16.0	21.3	40.2	0.6	96.5	3.8	95.3	4.9	4.3
Royal Victoria Hospital, Belfast	RVB	854	11.0	19.0	32.1	1.1	99.5	1.8	91.7	6.2	5.3
Northern Ireland (Average)		1923	12.9	22.4	39.1	0.6	98.5	3.1	94.0	5.0	5.0
Overall (Average)		64864	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

South Central												
	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Horton Hospital, Banbury	HOR	204	94.3	18.0	18.2	56.5	0.0	96.3	1.0	84.8	7.8	6.5
St Mary's Hospital, Isle of Wight	IOW	209	90.2	13.4	13.9	28.6	0.0	100.0	3.3	66.0	2.4	2.3
Milton Keynes General Hospital	MKH	242	91.6	20.1	23.0	56.7	0.4	95.8	2.9	90.5	9.9	11.1
Basingstoke and North Hampshire Hospital	NHH	284	91.4	22.0	23.7	62.1	2.9	96.0	7.4	93.3	5.6	6.5
Queen Alexandra Hospital, Portsmouth	QAP	692	94.7	16.1	18.7	62.8	1.2	98.9	3.5	98.0	4.3	4.8
John Radcliffe Hospital, Oxford	RAD	512	94.8	17.9	18.8	46.2	2.5	95.8	4.9	65.6	6.6	7.3
Royal Berkshire Hospital, Reading	RBE	425	95.9	13.1	16.3	50.4	1.9	99.8	2.1	80.7	5.4	6.6
Royal Hampshire County Hospital, Winchester	RHC	237	91.5	18.7	23.0	59.5	0.9	98.2	3.0	94.5	5.1	4.9
Southampton General Hospital	SGH	591	91.9	24.8	24.8	41.4	0.0	32.5	3.4	74.3	9.1	7.2
Stoke Mandeville Hospital, Aylesbury	SMV	367	93.7	15.3	16.0	49.5	1.1	98.8	0.8	82.8	8.4	8.4
Wexham Park Hospital, Slough	WEX	409	91.5	19.5	21.0	46.6	3.0	94.6	2.0	94.4	4.6	5.2
South Central (Average)		4172	92.9	18.1	19.8	50.9	1.3	91.5	3.1	84.1	6.3	6.4
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

South East	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Conquest Hospital, Hastings	CGH	523	88.9	18.2	22.2	60.9	0.6	96.1	3.3	97.5	7.3	8.7
Darent Valley Hospital, Dartford	DVH	334	94.3	17.9	21.0	36.8	1.2	97.4	4.5	82.0	5.4	4.8
East Surrey Hospital, Redhill	ESU	464	93.1	21.9	21.9	34.6	0.4	95.4	4.1	59.9	4.3	5.6
Frimley Park Hospital, Camberley	FRM	436	91.5	19.8	21.7	61.1	1.6	100.0	0.9	91.7	8.3	10.5
Medway Maritime Hospital	MDW	345	86.4	16.7	17.5	55.1	0.0	93.9	4.1	88.1	9.0	11.0
Queen Elizabeth the Queen Mother Hospital, Margate	QEQ	482	92.0	15.4	15.6	49.2	0.2	97.1	3.1	74.3	4.1	4.7
Royal Sussex County Hospital, Brighton	RSC	557	89.1	13.4	19.5	44.7	2.5	98.7	0.5	62.8	3.6	4.4
Royal Surrey County Hospital, Guildford	RSU	309	82.0	18.1	18.5	49.8	1.7	98.7	2.3	71.8	1.9	2.2
St Peter's Hospital, Chertsey	SPH	402	91.2	14.1	16.6	51.0	0.8	95.5	3.7	70.6	6.0	7.3
St Richard's Hospital, Chichester	STR	391	89.7	13.6	13.8	51.8	1.6	98.4	4.1	87.7	4.9	4.6
Maidstone and Tunbridge Wells Hospital	TUN	510	83.4	11.1	23.1	61.0	0.6	98.8	2.2	94.7	4.7	6.3
William Harvey Hospital, Ashford	WHH	446	92.6	14.9	15.1	43.9	0.0	99.8	2.7	65.2	7.6	9.2
Worthing and Southlands Hospital	WRG	492	93.3	4.7	21.6	48.2	0.8	97.3	2.2	95.3	7.3	5.5
South East (Average)		5691	89.8	15.4	19.1	49.9	0.9	97.5	2.9	80.1	5.7	6.5
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

South West	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Royal United Hospital, Bath	BAT	572	91.3	17.2	17.3	46.1	2.0	99.4	2.4	87.1	7.3	6.6
Bristol Royal Infirmary	BRI	320	94.2	19.0	28.6	37.5	2.9	98.9	3.8	93.4	7.8	6.7
Cheltenham General Hospital	CHG	234	92.6	12.6	13.0	37.7	0.0	99.1	10.3	71.8	8.5	8.8
Southmead Hospital, Bristol	FRY	521	92.1	22.8	23.4	57.2	1.6	98.1	2.5	94.6	6.7	7.3
Gloucestershire Royal Hospital, Gloucester	GLO	478	95.4	16.4	16.6	52.8	2.8	98.4	4.0	90.8	12.3	10.4
Musgrove Park Hospital, Taunton	MPH	390	95.1	13.5	14.0	51.6	1.6	73.1	4.1	90.3	7.7	9.9
North Devon District Hospital, Barnstaple	NDD	223	92.9	12.7	23.8	66.5	1.4	99.0	1.8	93.7	5.4	6.4
Poole General Hospital	PGH	963	96.5	12.8	13.0	46.1	1.2	92.7	3.7	91.2	6.5	7.3
Derriford Hospital, Plymouth	PLY	441	85.8	12.8	13.3	53.7	0.0	98.1	0.5	71.7	5.2	7.4
The Great Western Hospital, Swindon	PMS	475	93.5	13.8	16.4	52.5	2.1	97.1	3.4	77.9	8.0	8.5
The Royal Cornwall Hospital, Treliske	RCH	668	89.8	14.1	16.7	37.2	0.0	98.2	1.8	52.1	7.9	8.0
Royal Devon and Exeter Hospital, Exeter	RDE	593	93.2	11.9	13.9	47.2	1.7	99.6	3.4	92.6	7.4	8.3
Salisbury District Hospital	SAL	309	93.8	16.5	18.1	53.0	1.7	100.0	4.5	97.7	6.5	6.9
Torbay District General Hospital	TOR	466	94.8	9.2	12.3	36.6	0.4	98.2	2.6	63.9	4.5	4.4
Dorset County Hospital, Dorchester	WDH	325	93.5	14.2	14.6	45.3	1.9	99.7	2.2	53.5	9.5	11.3
Weston General Hospital, Weston-super-Mare	WGH	291	95.9	15.3	20.4	50.9	0.0	98.1	0.3	80.4	10.7	10.7
Yeovil District Hospital	YEO	286	100.8	13.9	15.6	48.1	1.4	94.0	3.1	80.1	8.4	8.3
South West (Average)		7555	93.6	14.6	17.1	48.2	1.3	96.6	3.2	81.3	7.7	8.1
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

Wales	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Bronglais Hospital, Aberystwyth	BRG	111	92.0	24.0	25.0	44.3	0.0	99.1	5.4	64.9	3.6	2.5
Glan Clwyd Hospital, Rhyl	CLW	315	103.8	14.5	29.7	54.1	0.0	66.4	5.7	81.6	5.4	4.7
Royal Gwent Hospital, Newport	GWE	300	77.4	22.3	38.4	44.5	0.7	97.7	4.0	98.3	7.3	10.0
Gwynedd Ysbyty, Bangor	GWY	336	87.4	13.9	32.0	44.0	0.0	92.9	3.6	71.4	6.3	9.0
Morriston Hospital, Swansea	MOR	476	97.2	17.8	38.8	37.3	1.6	98.3	7.4	93.7	8.2	9.3
Nevill Hall Hospital, Abergavenny	NEV	291	94.7	18.6	34.1	47.5	2.2	96.1	9.3	92.4	8.9	8.8
Prince Charles Hospital, Merthyr Tydfil	PCH	222	98.2	19.5	31.9	57.9	0.5	96.5	2.7	87.4	6.8	7.1
Princess of Wales Hospital, Bridgend	POW	257	86.6	23.6	38.7	52.2	2.0	93.0	4.7	91.4	5.4	6.5
Royal Glamorgan Hospital, Llantrisant	RGH	231	95.7	10.3	35.7	50.8	0.9	98.1	9.5	93.1	8.2	10.4
University Hospital of Wales, Cardiff	UHW	458	100.9	32.1	33.7	55.8	1.9	92.9	9.2	92.1	7.2	7.0
Wrexham Maelor Hospital	WRX	277	68.4	18.2	25.1	42.7	1.2	89.9	4.0	76.2	5.4	4.6
West Wales General Hospital, Carmarthen	WWG	157	80.3	16.3	26.1	61.1	0.0	96.7	2.5	26.8	3.2	2.9
Withybush Hospital, Haverfordwest	WYB	212	91.6	17.1	29.3	53.9	0.5	97.9	4.2	98.1	9.0	8.4
Wales (Average)		3643	90.3	19.1	32.2	49.7	0.9	93.5	5.6	82.1	6.5	7.0
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

West Midlands												
	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Queen's Hospital, Burton upon Trent	BRT	294	95.3	20.7	20.8	34.8	0.0	97.1	3.7	62.9	8.2	11.0
Birmingham Heartlands Hospital	EBH	468	79.9	19.9	20.0	61.0	0.6	82.8	0.6	80.3	6.2	7.1
Good Hope Hospital, Birmingham	GHS	360	83.5	17.4	17.6	57.9	1.1	92.0	1.1	73.1	8.6	11.4
County Hospital, Hereford	HCH	247	91.8	10.1	22.7	63.5	0.4	3.1	4.0	94.7	9.3	9.7
New Cross Hospital, Wolverhampton	NCR	464	89.7	16.0	27.0	37.1	1.6	92.4	3.9	89.7	10.4	9.2
George Eliot Hospital, Nuneaton	NUN	242	94.5	19.1	20.3	57.8	1.3	93.8	6.2	83.9	9.9	11.8
Queen Elizabeth Hospital, Edgbaston	QEB	461	89.5	23.5	24.0	50.5	0.4	99.3	3.5	79.4	7.2	5.1
Alexandra Hospital, Redditch	RED	300	93.3	17.5	17.5	45.7	0.3	99.6	3.0	63.0	10.0	10.4
Royal Shrewsbury Hospital	RSS	411	92.0	10.5	15.1	35.0	0.8	98.9	4.1	61.1	9.2	9.7
Russells Hall Hospital, Dudley	RUS	525	87.6	19.1	19.3	51.2	1.2	98.9	4.6	76.6	10.3	11.4
Sandwell General Hospital	SAN	334	94.8	13.3	16.3	80.5	0.0	95.5	2.4	98.8	9.6	10.7
Royal Stoke University Hospital	STO	738	87.1	10.1	10.2	29.3	0.3	95.5	5.0	40.5	6.0	4.4
Princess Royal Hospital, Telford	TLF	221	54.2	11.8	14.8	47.6	0.0	65.7	3.2	77.4	7.2	9.3
University Hospital Coventry	UHC	556	94.9	13.5	21.4	62.5	1.7	95.7	9.4	98.6	9.4	10.0
Warwick Hospital	WAR	360	92.9	14.3	26.3	55.9	3.1	97.6	4.7	98.3	5.8	5.9
Manor Hospital, Walsall	WMH	329	94.4	15.1	25.0	65.1	0.0	98.4	2.7	96.4	7.0	6.8
Worcestershire Royal Hospital, Worcester	WRC	417	94.6	12.5	14.5	41.2	0.2	99.7	1.9	65.7	6.2	6.6
West Midlands (Average)		6727	88.8	15.6	19.6	51.6	0.8	88.6	3.8	78.8	8.3	8.9
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

Yorks and the Humber	Hospital code	Number of cases submitted	Case ascertainment (%)	Acute length of stay (days)	Overall hospital length of stay (days)	Return to original residence within 30 days (%)	Reoperation within 30 days (%)	Documented not to have developed a pressure ulcer (%)	Hip fractures which were sustained as an inpatient (%)	Documented final discharge destination (%)	Crude 30-day mortality rate (%)	Adjusted 30-day mortality rate (%)
Airedale General Hospital	AIR	266	90.7	17.8	18.3	55.1	0.0	98.4	3.8	74.4	10.2	10.0
Barnsley Hospital	BAR	296	95.1	14.2	14.2	40.5	1.7	96.3	3.4	72.6	9.5	5.7
Bradford Royal Infirmary	BRD	321	94.2	11.8	12.0	35.8	2.9	99.7	5.9	91.0	8.4	7.5
Bassetlaw Hospital	BSL	171	91.8	14.5	15.1	56.3	0.0	98.1	1.8	97.7	5.3	4.5
Doncaster Royal Infirmary	DID	388	95.1	15.2	22.0	62.0	0.0	98.0	7.2	96.9	7.2	8.3
Diana Princess of Wales Hospital, Grimsby	GGH	293	86.2	15.8	16.1	52.3	0.7	96.0	2.0	86.3	7.8	7.0
Harrogate District Hospital	HAR	262	96.1	18.9	21.4	62.1	1.2	97.9	5.7	96.6	8.4	9.8
Hull Royal Infirmary	HRI	611	92.5	15.9	17.3	58.5	0.0	98.9	5.7	92.3	9.8	7.9
Huddersfield Royal Infirmary	HUD	524	99.0	16.0	22.3	42.9	1.4	94.7	5.7	79.0	8.6	7.1
Leeds General Infirmary	LGI	695	93.1	21.8	23.0	50.5	2.8	93.8	5.9	89.8	6.8	6.3
Northern General Hospital, Sheffield	NGS	583	90.6	5.3	22.2	53.2	0.0	96.5	8.9	73.9	9.4	10.0
Pinderfields General Hospital, Wakefield	PIN	557	92.1	19.6	20.9	48.1	1.7	95.7	4.8	77.7	8.4	6.9
Rotherham District General Hospital	ROT	271	95.5	19.4	19.9	39.0	0.0	99.6	0.7	84.5	7.7	8.2
Scarborough General Hospital	SCA	286	93.1	10.1	17.1	56.5	0.0	93.9	4.2	82.2	10.8	11.1
Scunthorpe General Hospital	SCU	240	90.5	11.6	12.6	66.7	2.6	100.0	1.7	98.3	7.5	6.0
York Hospital	YDH	357	83.0	16.8	25.5	54.1	0.8	100.0	3.4	96.6	8.7	9.2
Yorks and the Humber (Average)		6121	92.4	15.3	18.7	52.1	1.0	97.3	4.4	86.9	8.4	7.8
Overall (Average)		64864	91.2	16.4	21.1	50.5	1.0	94.9	3.9	82.2	7.1	7.3

## Published studies based on NHFD data

Griffin XL, Parsons N, Achten J, Fernandez M, Costa ML. Recovery of health-related quality of life in a United Kingdom hip fracture population. The Warwick Hip Trauma Evaluation – a prospective cohort study. *The Bone & Joint Journal* 2015;97-B:372–82. <http://doi.org/10.1302/0301-620X.97B3.35738>

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Marufu TC, White SM, Griffiths R, Moonesinghe SR, Moppett IK. Prediction of 30-day mortality after hip fracture surgery by the Nottingham Hip Fracture Score and the Surgical Outcome Risk Tool. *Anaesthesia* 2016;71:515–21. <http://doi.org/10.1111/anae.13418>

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Metcalfe D, Gabbe BJ, Perry DC *et al.* Quality of care for patients with a fracture of the hip in major trauma centres: a national observational study. *The Bone & Joint Journal* 2016;98-B:414–9. <http://doi.org/10.1302/0301-620X.98B3.36904>

Boulton C, Wakeman R. Lessons from the National Hip Fracture Database. *Orthop Trauma* 2016;30:123–127. <http://doi.org/10.1016/j.mporth.2016.03.011>

## Posters and presentations using NHFD data

Anaesthesia for hip fracture surgery – providing live feedback on trends in practice. Age Anaesthesia Association meeting, Derby, May 2016

Outcome prediction in older patients – are we expecting too much of prediction tools? Age Anaesthesia Association meeting, Derby, May 2016

Delivering ‘best practice’ for patients with hip fracture – does orthogeriatrician engagement with national clinical audit data improve performance? British Geriatrics Society (BGS) autumn meeting, Liverpool, May 2016

Hip fracture: does week-day of presentation affect length of stay? BGS autumn meeting, Liverpool, May 2016

Avoiding delay in surgery for hip fracture: using the National Hip Fracture Database (NHFD) to monitor and improve compliance with national guidelines. BGS autumn meeting, Liverpool, May 2016

Avoiding delay in surgery for hip fracture: using the National Hip Fracture Database (NHFD) to monitor and improve compliance with national guidelines. International Forum on Quality and Safety in Healthcare, Gothenburg, April 2016

Improving care for patients with hip fracture: the UK National Hip Fracture Database. International Forum on Quality and Safety in Healthcare, Gothenburg, April 2016



Early return home after hip fracture is not unsafe – evidence from the NHFD. BGS autumn meeting, October 2015

Quantifying orthogeriatrician involvement in hip fracture care – evidence from the NHFD. BGS autumn meeting, October 2015

Using the NHFD to monitor provision of THR for displaced intracapsular hip fracture. Fragility Fracture Network (FFN) congress, Rotterdam, September 2015

Hip fracture: does week day of presentation affect length of stay? FFN congress, Rotterdam, September 2015

Hip fracture following an inpatient fall: using the National Hip Fracture Database (NHFD) to identify the true scale of this challenge. European Union Geriatric Medicine Society (EUGMS) conference, Oslo, September 2015

Predicting 30-day mortality after hip fracture: validating the use of National Hip Fracture Database (NHFD) data. EUGMS conference, Oslo, September 2015

Hip fracture: does week day of presentation affect length of stay? British Orthopaedic Association (BOA) congress, Liverpool, October 2015

Predicting 30-day mortality after hip fracture: validating the use of National Hip Fracture Database (NHFD) data. BOA congress, Liverpool, October 2015

Total hip replacement for displaced intracapsular hip fracture: using the National Hip Fracture Database (NHFD) to monitor compliance with NICE guidance. BOA congress, Liverpool, October 2015

The National Hip Fracture Database patient report: my hip fracture care. Patient Information Forum, London, July 2015

Falls among hospital inpatients – using hip fracture incidence to monitor patient safety. BGS Spring meeting, Nottingham, April 2015

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# Falls and Fragility Fracture Audit Programme (FFFAP)

A suite of linked national clinical audits, driving improvements in care; managed by the Royal College of Physicians

- > **Falls Pathway Workstream**
- > **Fracture Liaison Service Database (FLS-DB)**
- > **National Hip Fracture Database (NHFD)**

