







## National Hip Fracture Database National report 2013



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## Prepared on behalf of the Clinical Effectiveness and Evaluation Unit at the Royal College of Physicians

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A summary of this report is also available online www.nhfd.co.uk

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## **Executive summary**

The National Hip Fracture Database (NHFD) is a clinically led, web-based audit of hip fracture care and secondary prevention. All 186 eligible hospitals in England, Wales and Northern Ireland are now regularly uploading data.

The NHFD is the largest and fastest-growing national hip fracture audit in the world with:

- Over quarter of a million cases recorded since its launch in 2007
- 95% of all cases occurring annually being documented by the NHFD
- 5,500 records being added every month

This report covers casemix, care and outcomes of 61,508 cases submitted between 1 April 2012 and 31 March 2013 by 180 hospitals meeting the case threshold of 100 (or a high percentage submission rate in smaller hospitals).

Care is audited against standards defined by the British Orthopaedic Association (BOA) and British Geriatrics Society (BGS), and comparison with the same six standards from our 2012 National Report shows that this year:

- 50% of patients are admitted to an orthopaedic ward within four hours (down from 52% in 2012)
- 86% receive surgery within 48 hours (improved from 83%)
- 3.5% are reported as having developed pressure ulcers (improved from 3.7%)
- 47% are reported as assessed pre-operatively by an orthogeriatrician (up from 43%)
- 69% are discharged on bone protection medication (unchanged)
- 94% received a falls assessment prior to discharge (up from 92%)

Our results are set alongside data from national data sources to allow a more comprehensive picture of total length of stay and mortality.

Casemix adjusted reporting on two key measures (30 day mortality, and return to own home by 30 days) is used to compare different hospitals' outcomes.

These outcomes are drawn against the mean and standard deviation according to the size of the unit and in the case of 30-day mortality, protocols have been developed to check the quality of data for outlying hospitals, and to feed back information that might help them in reviewing their clinical service.

Five hospitals triggered an 'alert' in terms of significantly increased 30 day mortality in this analysis, and their performance was reviewed with reference to the data submitted over the three year period 2010–13.

For three hospitals this 'alert' needs to be viewed alongside reassuring figures for previous years, but two were confirmed to exhibit a consistent cause for concern.

These two hospitals showed a consistent pattern, significant at a 95% level of confidence.

Clinicians and managers have used NHFD participation to prompt, monitor and evaluate clinical and service developments to improve the quality and cost effectiveness of hip fracture care. The report includes brief summaries of successful innovations that might encourage similar developments elsewhere.

In England, the NHFD has successfully supported the first four years of the Department of Health's Best Practice Tariff (BPT) initiative, which rewards the achievement of specified standards:

- surgery within 36 hours
- shared care by surgeon and geriatrician
- care protocol agreed by geriatrician, surgeon and anaesthetist
- assessment by geriatrician within 72 hours
- pre- and post-operative abbreviated mental test score assessment
- geriatrician-led multi-disciplinary rehabilitation
- secondary prevention of falls
- bone health assessment

Participation in BPT has steadily increased between 2010 and 2013.

A temporary fall at the start 2012–13 reflected the additional challenge of a requirement to perform the abbreviated mental test, but in the last quarter 60% of patients have achieved BPT – a marked improvement on the 55% figure for the same period in 2011–12.

This National Report describes 61,508 admissions with hip fracture across England, Wales and Northern Ireland. We show that this equates with the continuous occupation of over 4,000 beds across the NHS.

It is clear that the NHFD serves as a vital means of auditing the management of a condition which costs one and a half billion pounds each year.

## Introduction

This year marks the 50th anniversary of Bobby Irvine and Michael Devas' description of the first collaborative approach to the care of frail older people with hip fracture. The geriatric orthopaedic unit they set up in Hastings was the first of many such services which were developed to meet the needs of these patients.

Other enthusiasts subsequently put together informal or formal arrangements suited to the particular pressures in different parts of the country – with diverse patterns of referral, liaison and collaborative care emerging over the years. Many different models evolved, so that it is only in the last few years that an evidence base has emerged to prove the benefits associated with such collaborative working.

This fifth National Report of the NHFD gives us an opportunity to salute the legacy of Devas and Irvine.

#### The National Hip Fracture Database

In 2005 the success of collaboration between the BOA and the BGS in providing training for junior surgeons and geriatricians led these organisations to champion a change in approach to the care of older people with hip fracture in this country. Their joint publication of the Blue Book – 'The care of patients with fragility fracture' – proposed six quality standards which remain central to the organisation of care for this vulnerable group of individuals.

Health organisations were challenged to provide prompt admission to orthopaedic wards, early surgical repair of the fracture, protection against pressure ulcers, routine access to acute orthogeriatric assessment and support, and assessment for bone protection therapy and falls prevention to avoid future falls and fractures.

At the same time the BOA and the BGS proposed an independent, clinically-led, web-based audit – to monitor the quality and outcome of the care provided to individual patients, and to help individual trauma units to improve the organisation of their services.

With start-up funding from industry sources the NHFD was launched in 2007. In 2009 the NHFD was recognised by the National Clinical Audit Advisory Group for central funding, and the programme secured Healthcare Quality Improvement Partnership (HQIP) funding until 2014.

From 2012 the NHFD moved to be managed as part of the Falls and Fragility Fracture Audit Programme (FFFAP) within the Royal College of Physicians in London, benefitting from links with the other FFFAP work-streams addressing the development of Fracture Liaison Services and the prevention of falls in institutional care settings.

As organisations redesign their services, the number of hospitals treating acute hip fractures has reduced slightly. All 186 eligible hospitals in England, Wales, Northern Ireland and the Channel Islands are registered with NHFD, and all now regularly contribute data.

The NHFD's ability to detail casemix, performance and outcome, prompted the selection of hip fracture as a topic for the Department of Health's BPT initiative<sup>2</sup> in England. This offers additional payment when the NHFD records that a patient's care meets agreed standards – surgery within 36 hours, jointly agreed care protocols, shared care, cognitive assessment, geriatrician-led peri-operative assessment and multi-disciplinary rehabilitation<sup>4</sup>, and secondary prevention including falls and bone health assessment.

Since the start of BPT in April 2010 we have seen a steady rise in the number of participating hospitals, of cases submitted, and of cases meeting the tariff standards.

Individual trauma units upload casemix, clinical performance monitoring, and outcome details into a simple web-based tool. These data are analysed throughout the year, so clinicians and healthcare managers can use the same web-site to monitor their monthly and annual performance against the six standards of the Blue Book and to benchmark their performance against other units on a regional or national basis.

With a tendency towards increasing specialisation and centralisation of trauma services many patients will be admitted to units that are some way from their home, and may move to rehabilitation wards and community rehabilitation beds before their eventual discharge. The development of clinical pathways across different hospitals, Trusts, and other organisations is crucial if such care is to be efficiently organised and if patients are to be offered continuity of clinical care. The development of orthogeriatric clinical networks has been an additional benefit of units' collaboration in the NHFD.

The NHFD project coordinators have organised a series of well-attended regional meetings, to bring together clinicians and managers to share expertise, and improve the quality and cost-effectiveness of the care they provide. The NHFD web-site offers additional support; case studies, good practice examples, model job descriptions, and business plans, so that by sharing information individual clinicians can benefit from others' experience.

The success of all this is demonstrated in this fifth National Report – but the NHFD is far more than just an annual report, and this document should be read as just part of the NHFD's work.

#### **The 2013 National Report**

Earlier this year the total number of patients recorded in the NHFD exceeded a quarter of a million. This report considers a total of 61,508 patients admitted between 1 April 2012 and 31 March 2013 – bringing together data from all 180 hospitals in England, Wales and Northern Ireland which reported data on over 100 cases or (in the five units which admit fewer than this) reported data on over two thirds of their cases.

The main body of the report presents comparative data in a series of tables and charts which rank individual hospitals. These allow a local team to understand how their casemix – patients' age, sex-ratio, place of residence, anaesthetic grade, cognitive state, walking ability, and fracture type – compare with that reported in other units.

In this year's report we rank hospitals on the basis of the proportion of hip fractures which have been sustained following an in-patient fall (Chart 2). The fact that inpatient fallers make up as much of 15% of admissions to some units will be of interest to local health providers, as will the observation that the catchment area of some of these units includes hospitals with no alternative to single room accommodation.

The same approach is used to describe the patients' progress – from admission through to discharge, with details of time to an orthopaedic ward and time to surgery, and of operations performed, medical assessment, development of any pressure ulcers, secondary prevention measures, length of acute hospital stay and destination on discharge.

Outcome is summarised with a number of key measures which have been adjusted to take into account the casemix of the patients admitted to individual hospitals.

The priority of most patients and their families is that they are helped to regain independence and mobility, and are able to return to their previous residence as soon as possible. Casemix adjusted data on the percentage of patients returning to their own home by 30 days after hip fracture are therefore our key outcome measure. The report also includes casemix adjusted mortality figures at 30 days.

For the first time, this report includes overall NHS length of stay or 'super-spell' figures, not only for England, but also for Wales and Northern Ireland. These have been derived from reference to national databases –Health Episode Statistics (HES) in England, Patient Episode Database Wales (PEDW) in Wales, and Fracture Outcome Research Database (FORD) in Northern Ireland. This super-spell data at last addresses the difficulty of describing the overall patient experience when different stages of care are provided in different organisations. Figures from different hospitals, Trusts, and other NHS organisations are being linked to define how long it actually takes a patient to return home, or to be settled in their placement.

#### **Progress so far**

#### Performance

This report includes much of which we should be proud when we measure it against the six Blue Book standards which stimulated the NHFD's original development. We can see a progressive pattern of improvement across the four standards for which the NHFD has been the principal driver – orthogeriatric assessment, the prevention of pressure sores, and prevention of future falls and fractures.

Standard		2010	2011	2012	2013
1. Admission to orthopaedic ward within 4 hours		55%	56%	52%	50%
2. Surgery within 48 hours and during working hours	75%	80%	87%	83%	86%
3. Patients developing pressure ulcers		6%	3.7%	3.7%	3.5%
4. Pre-operative assessment by an orthogeriatrician		31%	37%	43%	49%
5. Discharged on bone protection medication		57%	66%	69%	69%
6. Received a falls assessment prior to discharge		63%	81%	92%	94%

In order to ensure comparability with previous reports, the percentages quoted above are based on the exclusion of 'unknown' data.

Of concern, only half of patients are now admitted to an orthopaedic ward within four hours of presentation – this figure having again fallen compared to the 56% we reported in 2011. This coincides with a reduced emphasis on this as a target, but may reflect the tendency for hip fracture patients to be placed in the generic admission wards which have evolved as a means of responding to the increasing numbers presenting to Emergency Units.

On a more positive note, the proportion of patients being offered surgery within 48 hours has stabilised, with a slight improvement after the deterioration we reported last year. The significant variation in performance around the country that we report suggests that there is still considerable room for further improvement.

The more ambitious target set by National Institute for Health and Care Excellence (NICE)<sup>3</sup> in 2011 remains a challenge – with only 70% of patients currently being offered surgery 'on the day of, or the day after admission'.

#### Mortality

Hip fracture is the commonest cause of injury related death, and is commonly seen by patients, their relatives and friends as the final insult that led to their death. Many of these deaths are a reflection of frailty and pre-existing illness, and not all mortality is preventable. Variation in the age and complexity of patients admitted to different hospitals makes it challenging to demonstrate whether an individual unit is doing everything necessary to avoid preventable deaths, but casemix adjustment helps us to correct for this.

The overall rate of mortality at 30 days in the casemix adjusted analysis is 8.2% – compared with the 8.1% figure we reported for 2011–12 in our supplement earlier this year. Some of the apparent variation in mortality between units will be a chance statistical finding, but our approach does allow us to identify units where performance is particularly poor, and to highlight those where outstanding performance should be recognised.

We identified a number of Trusts (FRY, LDH, STR, WAT, WHH) which are outliers in that they fall outside the 2SD threshold in this year's funnel plot [Chart 29].

However, it is not clear that this indicates a consistent pattern of failing or justifiable cause for concern. FRY and WHH were not outliers when data collected over the three year period 2010–13 was considered, and although STR did remain an outlier in this three year analysis, the absolute excess mortality for each of these units was less than one case per year.

In contrast, two units (LDH and WAT) triggered concerns on 2012–13 data, and were still outliers when the three years' data were analysed. Both units remained at or above the 3SD 'alarm' threshold for the 2010–13 period [Chart 30]. Each showed an excess mortality which in absolute terms equated with over 12 deaths during the three year period, and which was significant at a 95% confidence limit.

#### Return home

Older people often report being more concerned about potential loss of independence, than about the risk of dying after a hip fracture. As a result success in rehabilitation remains the NHFD's key marker of the quality of multidisciplinary care.

The overall rate of return home from home at 30 days for all cases included in the case-mix adjusted analysis was 43.3% in 2011, 44.6% in 2012, and this year has improved further – to 46.2%.

The quality of follow-up data has again improved this year, but these figures continue to be based on relatively poor data returns, with only 44.8% complete for the 30 day time point.

#### Length of Stay

Length of stay (LOS) is the main component of the overall cost of hip fracture care. Potential reductions in LOS were key to the improved cost-effectiveness achieved by Hip Fracture Programmes that were identified by the economic model of the NICE Guideline<sup>3</sup> (CG124) on hip fracture.

This report describes a further small reduction in the mean length of acute and post-acute stay within the admitting hospital – from 21.2 days in 2011, to 20.2 days in 2012 – and 20 days this year (Chart 22).

The NHFD has commissioned the Royal College of Surgeons' Clinical Effectiveness Unit (RCS CEU) to link data on individual patients in the NHFD with details of their inpatient care held in national databases. This seeks to capture length of stay not only in the hospital to which a patient is originally admitted, but also the whole of subsequent NHS stay in other Trusts or organisations.

The first description of this approach to 'super-spell' was included in our supplementary report published earlier this year. That report considered patients in England using Health Episode Statistics (HES) data for the 2010–11 year.

In this 2013 National Report we include the same analyses for the 2011–12 year – extended with new data from PEDW data from Wales, and with additional data from FORD for Northern Ireland (Chart 23).

The development of Local Health Boards means that in Wales patients do not move between acute and community Trusts in the same geographical area. There is less need to identify the elements of care provided by different organisations, and PEDW categorises length of stay differently from HES. PEDW data simply split between a spell of trauma/rehabilitation in the admitting hospital, and any spell of rehabilitation or long-stay inpatient care that might follow in a second hospital.

Technical and practical difficulties inherent in attempting to identify 60,000 patients with hip fracture in HES mean that while this report features NHFD figures for 2012–13, we report super-spell figures for 2011–12.

In spite of this the super-spell data gives a crucial insight into the real cost of hip fracture – capturing the whole time a patient has to spend in hospital, and the whole cost to the health service in terms of overall hospital bed occupancy.

The HES figure for mean super-spell in England is 22 days. This may still understate NHS stay as it remains unclear whether HES reliably captures the full extent of NHS funded rehabilitation in intermediate care and care homes – which is an increasingly important component of Community Trust provision in England.

In contrast PEDW records a super-spell of 35 days in Wales, reflecting a LOS in rehabilitation beds that is over twice as long as the figure for England. This pattern is consistent with data submitted to the NHFD; nine of the ten longest LOS figures being for hospitals in Wales. Long-stay and continuing care hospital beds are an element of provision in Wales, but the impact of long-stay patients will have been limited in this report since LOS figures beyond 365 days are excluded from this analysis.

The FORD data indicate a super-spell of 33 days for Northern Ireland that is also substantially longer then the HES figure for England. This will in part reflect a greater use of rehabilitation beds as part of a hub and spoke model, with centralisation of hip fracture surgery in a small number of trauma units which serve a wide geographic catchment area.

#### **Future development of the NHFD**

#### Improving ascertainment

This national report contains the most complete data set so far – the largest number of hospitals, the largest number of patients, and the most complete datasets.

A national clinical audit should seek to acquire complete data on all cases, and the NHFD constantly questions what might be happening in situations where patients are not being reported:

- hospitals which in the past were not submitting any data
- hospitals which still submit too few patients to support reliable analysis
- hospitals where a proportion of patients are missed, but where there is a risk that these may be missed for a reason that might lead to biased performance and outcome figures (for instance if fitter patients were lost when moved for total hip replacement in a different unit)
- hospitals where follow-up is incomplete and where there is a risk of bias (for instance, if inpatient deaths are all recorded, but some discharge data missed estimates of inpatient mortality might be artificially elevated)

Encouragingly, since May 2013 all hospitals are now contributing data. Only 6 units were excluded from this year's report on the basis of the poor number of cases submitted. Individual charts in the report highlight where data is incomplete. However, it is not straightforward to establish how complete our data are, since there is no external 'gold-standard' against which our figures could be checked.

Until this year the most reliable available estimate of total hip fracture numbers for these countries has been our own – from participating sites' Facilities Audit reports of how many patients they are seeing. Increasingly these units' estimates have been based on previous years' experience of data submission to the NHFD, refined by local understanding of whether a proportion of patients might have been missed.

However, we have attempted to validate the completeness of case ascertainment through the RCS CEU data comparison exercise described above.

The HES and PEDW databases have their own uncertainties, and in particular their dependence on coding means that they may not identify all patients with hip fracture. HES showed 59,344 admissions in England in 2011–12, PEDW showed 3,804 admissions in Wales.

These figures correspond well with our own estimates. Our facilities audit had estimated 58,638 hip fracture admissions in England, and 3,810 in Wales, and for 2012–13 we report data submitted on 55,998 in England, and on 3,665 in Wales.

FORD identified 1,695 patients in Northern Ireland in 2011–12. The NHFD already links directly with FORD so numbers will correspond very closely. All four hospitals in Northern Ireland are now contributing data, so for 2012–13 our facilities audit estimate increased to 1,936, and this report includes 1,845 patients.

There is no reason to believe that HES and PEDW provide a more reliable estimate of total hip fracture numbers than our own figures, but we can feel confident in our case ascertainment since we have collected and report data on 94.9% of all the hip fractures recorded in these national databases, and on 95.5% of the number expected from our own facilities audit.

#### Improving follow-up

Follow-up data remains disappointing in some areas, and 30 day follow-up data is only complete in 37.4% of cases. However, this report still demonstrates an immediate impact on patient independence, with new care home placements for a significant number of those who suffer a hip fracture.

We show that 23% of those surviving the injury go to care homes directly from the acute hospital (only 19.2% were admitted from such care), and a further 21.6% transfer to rehabilitation wards. At present the incompleteness of follow-up data for the patients who are offered additional rehabilitation means that the overall rate of new care home placement following hip fracture cannot be estimated.

Given that each such placement after hip fracture carries a mean life-time cost of £64,000 an understanding of longer term outcome would be a key economic measure that the NHFD should seek to deliver. Such a move may reflect greater difficulty with mobility or self-care, but may also reflect a loss of confidence on the part of the patient or their relatives – so that a fear of future falls precipitates a move to institutional care.

Provision of coordinated multidisciplinary rehabilitation and secondary prevention of falls are clearly key to avoiding unnecessary loss of independence.

#### Improving description of care

This and previous National Reports have been focused on audit of current practice against the standards set out in the BOA/BGS 'Blue Book' and the criteria set out for BPT in England.

The demonstration that 78.4% of patients are having a post-operative abbreviated mental test<sup>4</sup> is an indication of how rapidly participating hospitals can respond to innovation or change in these criteria.

Ongoing work seeks to extend this remit so that we can explore other aspects of care, and other measures of performance and outcome. Short term 'Sprint' audits will be the first step in this development.

#### The NHFD and Anaesthetic Management

Anaesthesia was not included in the initial core dataset for the NHFD as these details did not form part of the Blue Book standards. However, since April 2011 limited information has been collected on the type of anaesthesia, and the use of nerve blocks for hip fracture surgery as part of the core dataset.

In 2011 representatives from NHFD and the Association of Anaesthetists of Great Britain and Ireland (AAGBI) decided to collaborate and develop a comprehensive Anaesthesia Sprint Audit of Practice (ASAP).

This seeks to assess adherence to the AAGBI guidelines<sup>4</sup> on the management of proximal femoral fracture which in 2011 recommended:

- that surgery and anaesthesia are undertaken by appropriately experienced surgeons and anaesthetists
- that the Nottingham Hip Fracture Score<sup>5</sup> is used to predict Postoperative mortality
- consideration of spinal/epidural anaesthesia for all patients undergoing hip fracture repair unless otherwise contraindicated

- not using opioid analgesics as the sole adjunct to anaesthesia
- that either spinal or general anaesthesia is administrated (simultaneous administration is associated with precipitous falls in blood pressure)
- use of supplemental oxygen during spinal anaesthesia
- co-administration of intrathecal opioids during spinal anaesthesia
- pre or Postoperative peripheral nerve blockade to supplement either general or spinal anaesthesia
- monitoring of intraoperative blood pressure
- identification of bone cement implantation syndrome, by monitoring for hypoxia or hypotension shortly after cementing or reaming

The objectives of the ASAP sprint audit are to:

- describe the use of different anaesthesia, peripheral nerve blockade, opioids and sedative medication
- define the prevalence and implications of hypotension developing during anaesthesia
- establish the seniority of the operating surgeon/anaesthetist
- identify operative markers of bone cement implantation syndrome
- establish whether the Nottingham Hip Fracture Score is a robust method of conducting casemix analysis

Data is being collected prospectively in the summer of 2013. The ASAP sprint will involve the addition of 8 fields to the NHFD data set. ASAP data will be linked to outcome measures of the NHFD; primarily 30-day mortality, Postoperative worsening of abbreviated mental test score, and return to normal residence. Currently, out of the 186 hospitals contributing to the NHFD 167 hospitals have signed up for the ASAP sprint audit.

#### The NHFD and NICE Quality Standard 16

In 2011 NICE published 'The Management of Hip Fracture in Adults' along with a series of implementation tools and resources. In 2012 they published a set of Quality Standards for hip fracture (NICE QS16)<sup>6</sup>.

These included a number of areas about which the existing NHFD dataset provides information, and this report already includes charts which test specific standards within QS16 – in particular those which state that people with hip fracture should:

- have their cognitive status assessed, measured and recorded from admission
- have surgery on the day of, or the day after, admission
- receive cemented arthroplasty for displaced intracapsular fracture, with the offer of total hip replacement if clinically eligible

- be offered a multifactorial risk assessment to identify and address future falls risk, and are offered individualised intervention if appropriate
- be offered a bone health assessment to identify future fracture risk and pharmacological intervention as needed before discharge from hospital.

The NHFD team is currently proposing a new Sprint Audit to extend the NHFD's coverage to the remaining elements of QS16 – quality standards which state that people with hip fracture should:

- receive prompt and effective pain management, in a manner that takes into account the hierarchy of pain management drugs, throughout their hospital stay
- have their surgery scheduled on a planned trauma list, with consultant or senior staff supervision
- receive extramedullary implants such as a sliding hip screw in preference to an intramedullary nail for trochanteric fractures above and including the lesser trochanter (AO classification types A1 and A2)
- be offered a physiotherapist assessment the day after surgery and mobilisation at least once a day unless contraindicated
- be offered a formal Hip Fracture Programme from admission
- be offered early supported discharge (if they are eligible), led by the Hip Fracture Programme team
- and that the Hip Fracture Programme team retains a comprehensive and continuing clinical and service governance lead for all stages of the pathway of care, including the policies and criteria for both intermediate care and early supported discharge

It is planned that these areas should form the focus of a specific Sprint Audit – an audit that would also approach the question of the patient experience. Since cognitive impairment is so prevalent in this patient group this will be challenging, but an extension of our work to assess the quality of the patient's experience with respect to pain management is clearly a minimum requirement if we are to understand the impact of hip fracture from their perspective.

Further detail on how NHFD reporting maps to NICE Clinical Guidance can be found in our 2012 National Report (available on nhfd.co.uk) Charts which report against NICE guidance are indicated with the tag

NICE CG 124

#### The NHFD and Clinical Commissioning Groups

The Clinical Commissioning Group Outcomes Indicator Set is currently being developed as part of NHS England's approach to quality improvement. Its aim is to support Clinical Commisioning Groups (CCGs) and health and wellbeing partners, to plan for health improvement and to provide clear, comparative information for patients and the public about the quality of health services commissioned by CCGs.

The following hip fracture indicators are included in the set of recommended indicators that are under consideration by NHS England for 2014–15<sup>15</sup>.

If accepted, hip fracture incidence will be calculated from the Hospital Episode Statistics. The remaining three indicators will be derived from data submitted to the NHFD:

- 1. Of people with hip fracture, the proportion who receive a formal Hip Fracture Programme from admission evidenced as having a joint acute care protocol at admission, and evidence of MDT rehabilitation agreed with a [named responsible orthogeriatrician and orthopaedic surgeon, with GMC numbers recorded.
- 2. Of people with hip fracture, the proportion who receive surgery on the day of, or the day after, admission.
- 3. Of people with hip fracture, the proportion who receive a multifactorial risk assessment of future falls risk, led by the Hip Fracture programme team evidenced by GMC number of responsible clinician.

This reinforces the importance of submitting complete, accurate data to the NHFD.

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# Participating hospitals

Indicates inclusion in this report n=180; indicates hospitals participating in NHFD but not submitting sufficient data to be included in this report n=6

In the following charts, hospitals are identified using their unique three letter code

Addenbrooke's Hospital, Cambridge	ADD	George Eliot Hospital, Nuneaton	NUN
Airedale General Hospital	AIR	Glan Clwyd Hospital, Rhyl	CLW
Alexandra Hospital	RED	Gloucester Royal Hospital	GLO
Altnagelvin Area Hospital	ALT	Good Hope Hospital	GHS
Arrowe Park Hospital, Wirral	WIR	Grantham and District Hospital	
Barnet Hospital	BNT	Guys and St. Thomas Hospital	STH
Barnsley Hospital	BAR	Gwynedd Ysbyty, Bangor	GWY
Basildon and Thurrock University Hospital	BAS	Harrogate District Hospital	HAR
Basingstoke and North Hampshire Hospital	NHH	Hillingdon Hospital	HIL
Bassetlaw District General Hospital	BSL	Hinchingbrooke Hospital	HIN
Bedford Hospital	BED	Homerton University Hospital	HOM
Birmingham Heartlands	EBH	Horton Hospital, Banbury	HOR
Bradford Royal Infirmary	BRD	Huddersfield Royal Infirmary	HUD
Bristol Royal Infirmary	BRI	Hull Royal Infirmary	HRI
Bronglais General Hospital, Aberystwyth	BRG	James Cook University Hospital	SCM
Broomfield Hospital	BFH	James Paget University Hospital	JPH
Charing Cross Hospital		Jersey General Hospital	
Chase Farm Hospital	CHS	John Radcliffe, Hospital, Oxford	RAD
Chelsea and Westminster Hospital	WES	Kettering General Hospital	KGH
Cheltenham General Hospital	CHG	King's College Hospital, London	KCH
Chesterfield Royal Hospital	CHE	King's Mill Hospital, Sutton in Ashfield	KMH
Colchester General Hospital	COL	Kingston Hospital	KTH
Conquest Hospital, Hastings	CGH	Leeds General Infirmary	LGI
Countess of Chester Hospital	COC	Leicester Royal Infirmary	LER
County Hospital, Hereford	HCH	Leighton Hospital, Crewe	LGH
Craigavon Area Hospital	CRG	Lincoln County Hospital	LIN
Croydon University Hospital	MAY	Luton and Dunstable Hospital	LDH
Cumberland Infirmary, Carlisle	CMI	Macclesfield General Hospital	MAC
Darent Valley Hospital, Dartford	DVH	Manchester Royal Infirmary	MRI
Darlington Memorial Hospital	DAR	Manor Hospital, Walsall	WMH
Derbyshire Royal Infirmary	DER	Medway Maritime Hospital	MDW
Derriford Hospital, Plymouth	PLY	Milton Keynes General Hospital	MKH
Diana Princess of Wales Hospital, Grimsby	GGH	Morriston Hospital, Swansea	MOR
Doncaster Royal Infirmary	DID	Musgrove Park Hospital, Taunton	MPH
Dorset County Hospital	WDH	Nevill Hall Hospital	NEV
Ealing Hospital		New Cross Hospital, Wolverhampton	NCR
East and North Herts Hospital	ENH	Newham General Hospital	NWG
East Surrey Hospital, Redhill	ESU	Nobles Hospital, Isle of Man	NOB
Eastbourne Hospital	DGE	Norfolk and Norwich University Hospital	NOR
Frenchay Hospital, Bristol	FRY	North Devon District Hospital	NDD
Frimley Park Hospital, Camberley	FRM	North Manchester General Hospital	NMG
Furness General Hospital, Barrow-in-Furness	FGH	North Middlesex University Hospital	NMH

North Tyneside General Hospital	NTY	St Helier Hospital, Carshalton	SHC
Northampton General Hospital	NTH	St. Mary's Hospital, Isle of Wight	IOW
Northern General Hospital, Sheffield	NGS		STM
the state of the s		St. Mary's Hospital, Paddington	
Northwick Park Hospital	NPH	St Peter's Hospital, Chertsey	SPH
Peterborough District Hospital	PET	St Richard's Hospital, Chichester	STR
Pilgrim Hospital, Boston	PIL	Stafford Hospital	SDG
Pinderfields General Hospital, Wakefield	PIN	Stepping Hill Hospital, Stockport	SHH
Poole General Hospital	PGH	Stoke Mandeville, Aylesbury	SMV
Prince Charles Hospital, Merthyr	PCH	Sunderland Royal Hospital	SUN
Princess Elizabeth Hospital, Guernsey		Tameside General Hospital, Manchester	TGA
Princess Of Wales Hospital	POW	The Great Western Hospital, Swindon	PMS
Princess Royal Hospital, Bromley	BRO	The Ipswich Hospital	IPS
Princess Royal Hospital, Telford	TLF	The Princess Alexandra Hospital, Harlow	PAH
QEQM, Margate	QEQ	The Royal Cornwall Hospital,	RCH
Queen Alexandra Hospital, Portsmouth	QAP	The Royal London Hospital	LON
Queen Elizabeth Hospital, Birmingham	QEB	Torbay District General Hospital	TOR
Queen Elizabeth Hospital, King's Lynn	QKL	Trafford General Hospital	TRA
Queen Elizabeth Hospital, Gateshead	QEG	Tunbridge Wells Hospital	TUN
Queen Elizabeth Hospital, Woolwich	ĠWH	Ulster Hospital, Dundonald	NUH
Queen's Hospital, Burton upon Trent	BRT	Queens Medical Centre, Nottingham	UHN
Queen's Hospital, Romford	OLD	University College Hospital , London	
Rotherham District General Hospital	ROT	University Hospital of North Staffs,	
Royal Albert Edward Infirmary, Wigan	AEI	Stoke-on Trent	STO
Royal Berkshire Hospital, Reading	RBE	University Hospital Aintree	FAZ
Royal Blackburn Hospital	BLA	University Hospital Coventry (Walsgrave site)	
Royal Bolton Hospital	BOL		DRY
	RDE	University Hospital of North Durham	
Royal Devon and Exeter Hospital		University Hospital of North Tees	NTG
Royal Free Hospital	RFH	University Hospital of Wales, Cardiff	UHW
Royal Glamorgan Hospital, Llantrisant	RGH	University Hospital, Lewisham	LEW
Royal Gwent Hospital	GWE	Victoria Hospital, Blackpool	VIC
Royal Hampshire County Hospital	RHC	Wansbeck Hospital	ASH
Royal Lancaster Infirmary	RLI	Warrington Hospital	WDG
Royal Liverpool University Hospital	RLU	Warwick Hospital	WAR
Royal Oldham Hospital	OHM	Watford General Hospital	WAT
Royal Preston Hospital	RPH	West Cumberland Hospital, Whitehaven	WCI
Royal Shrewsbury Hospital	RSS	West Middlesex University Hospital	WMU
Royal Surrey County Hospital, Guildford	RSU	West Suffolk Hospital, Bury St Edmonds	WSH
Royal Sussex County Hospital, Brighton	RSC	West Wales General Hospital, Carmarthen	WWG
Royal United Hospital, Bath	BAT	Weston General Hospital,	
Royal Victoria Hospital, Belfast	RVB	Weston-Super-Mare	WGH
Royal Victoria Infirmary, Newcastle	RVN	Wexham Park Hospital, Slough	WEX
Russells Hall Hospital, Dudley	RUS	Whipps Cross University Hospital	WHC
Salford Royal Hospital	SLF	Whiston Hospital, Prescot	WHI
Salisbury District Hospital	SAL	Whittington Hospital	WHT
Sandwell General Hospital	SAN	William Harvey Hospital, Ashford	WHH
Scarborough General Hospital	SCA	Withybush Hospital, Haverford West	WYB
Scunthorpe General Hospital	SCU	Worcestershire Royal Hospital	WRC
South Tyneside District Hospital	STD	Worthing and Southlands Hospital	WRG
Southampton General Hospital	SGH	Maelor Hospital, Wrexham	WRX
Southend University Hospital	SEH	Wythenshawe Hospital, Manchester	WYT
Southport District General Hospital	SOU	Yeovil District Hospital	YEO
St George's Hospital	GEO	York Hospital	YDH
or aconge of hospital	SLO	TOTAL HOSpital	1011

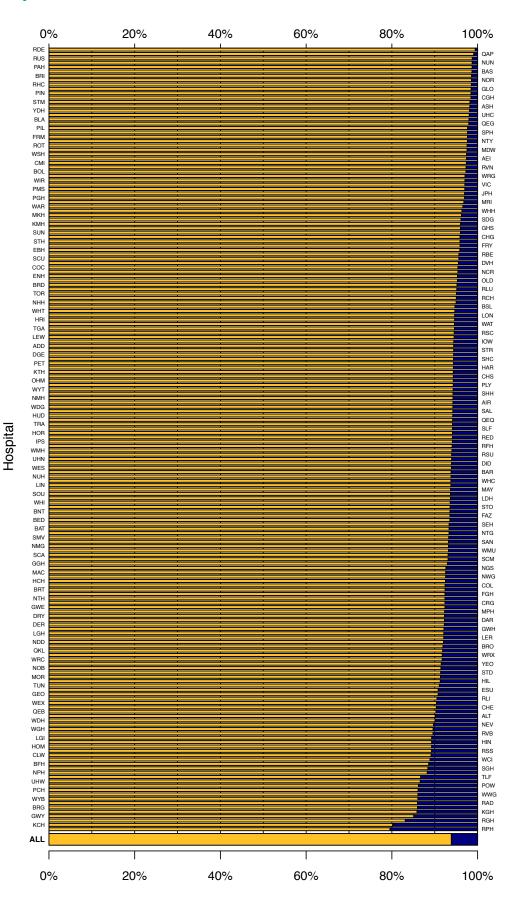
# Chart 1 – Completeness of data fields on cases included in the 2013 National Report

#### Data:

Total number of fields – 1,390,457
Total number of fields completed – 1,305,286 (93.9%)
All 180 hospitals included in chart

□ Complete (93.9%)

■ Incomplete (6.1%)



## Casemix

The outcome following a hip fracture depends on the overall health of the individual patient. Although age may be an indicator of frailty, it is not necessarily true that older patients will recover less well than younger patients. Guidelines on the care of hip fracture are not age based and an overall assessment of the patient's health is an important part of planned treatment. As there are regional variations in population health, the NHFD case-mixes the outcome of treatment, so as to allow for fair comparison.

In previous reports Age at admission, Gender, American Society of Anesthesiologists (ASA) grading<sup>4</sup>, Walking ability and Fracture type were all reported as separate charts. However, these show little change year on year and only the residency status – place of admission and Abbreviated Mental Test (AMT) Scores have been included in this report.

		2009–10	2010–11	2011–12	2012–13
Gender	Male	26.0%	26.1%	26.0%	26.8%
Gender	Female	74.0%	73.9%	74.0%	73.2%
	60–69	8.0%	8.4%	8.3%	8.7%
Λ	70–79	23.0%	22.6%	22.2%	21.7%
Age	80–89	50.0%	48.0%	48.2%	47.4%
	90+	19.0%	21.0%	23.3%	22.1%
ASA	ASA known	Not reported	87.3%	90.2%	92.7%
completed	ASA unknown	Not reported	12.7%	9.8%	7.3%
	ASA 1	3.0%	2.6%	2.4%	2.2%
	ASA 2	31.0%	31.9%	30.7%	29.7%
ASA grade	ASA 3	54.0%	54.4%	55.1%	55.5%
	ASA 4	12.0%	10.8%	11.4%	12.2%
	ASA 5	< 1.0%	0.4%	0.4%	0.4%
	Without aids	46.0%	45.2%	45.8%	46.1%
	1 aid	24.0%	24.9%	24.9%	24.2%
Walking ability	2 aids/frame	23.0%	23.5%	23.7%	24.6%
ability	Wheelchair	2.0%	2.5%	2.4%	2.4%
	Unknown	5.0%	3.8%	3.2%	2.7%
	Intracapsular undisplaced	12.0%	11.4%	10.9%	10.1%
	Intracapsular displaced	45.0%	46.3%	46.8%	47.5%
Fracture	Intertrochanteric	35.0%	33.8%	34.3%	35.0%
type	Sub-trochanteric	5.0%	5.0%	5.4%	5.7%
	Other	3.0%	2.9%	1.8%	1.2%
	Unknown	< 1.0%	0.6%	0.8%	0.5%

#### Chart 2 - Admitted from

Last year this chart was ranked by the percentage of patients admitted from their own home.

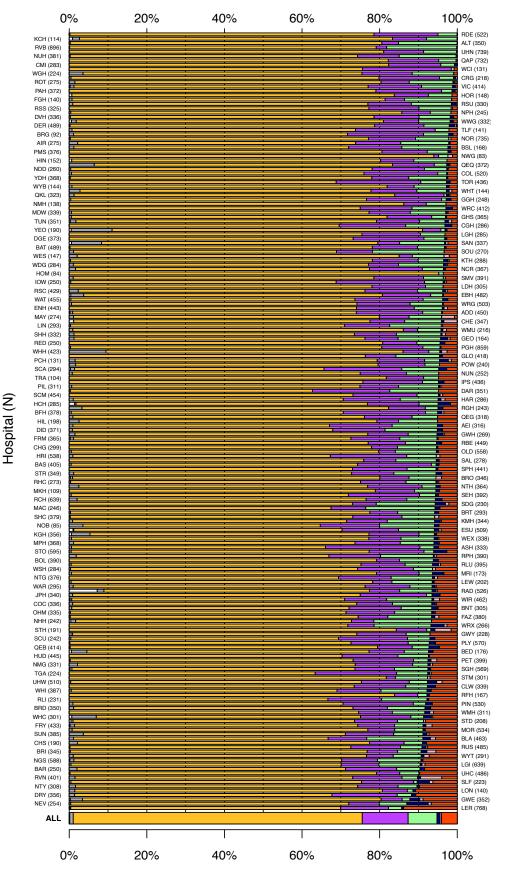
In this report we have ranked the chart by percentage of patients admitted from NHS locations (Rehabilitation Unit, Acute Hospital and Already in Hospital).

There is some variation in the way in which these fields are used locally, but this gives an idea of the proportion of patients who fracture their hips in hospital, ranging from 0% to 15%.

Two of the highest rates of admission from inpatient care are in new hospitals which only provide single room accommodation.

This data may help local health providers to understand the risk of inpatient falls in their locality.





One hospital excluded due to incorrect data.

### **Chart 3a – Pre-operative AMT Score**

#### NICE CG 124

The AMT Score is a simple measure of cognitive function. Pre and post-operative scores form part of the assessment for Best Practice Tariff.

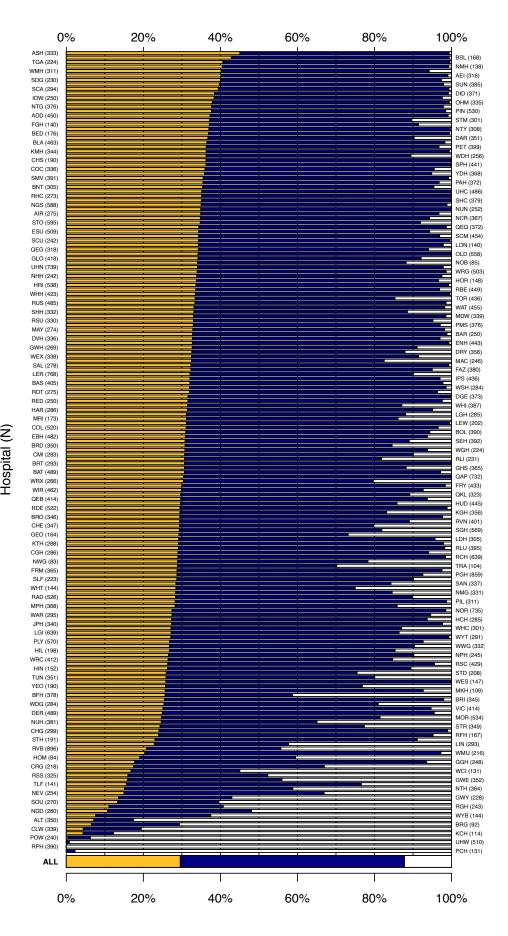
Only 87.8% (range 0% to 100%) of patients have a preoperative score reflecting the absence of BPT in Wales and Northern Ireland.

Of the known admission AMT scores, 33.7% have a score of 6 or less, consistent with the high proportion of patients admitted with dementia or delirium.

**□** 0−6 (29.6%)

**7**–10 (58.2%)

☐ Unknown (12.2%)



### **Chart 3b Post-operative AMT Score**

#### NICE CG 124

The post-operative score is undertaken at any time after surgery, whilst the patient is still in the acute ward.

Although it would be inappropriate to rescore a patient in some circumstances, the vast majority of patients should be well enough in the days following surgery to allow that reassessment.

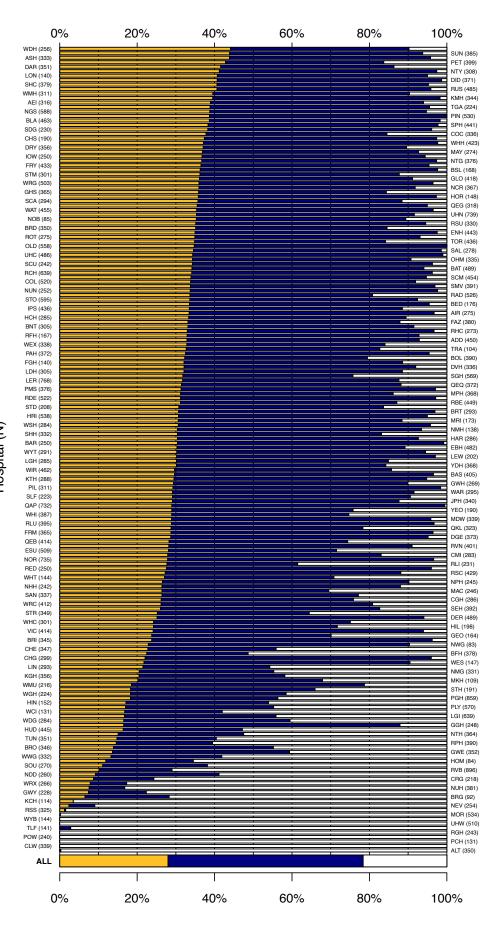
Given that BPT only applies in England, it is a major achievement that 78.4% (range 0% to 100%) have a post-operative score recorded.



**□** 0-6 (28.0%)

**1** 7–10 (50.4%)





### Chart 4 – A&E to orthopaedic ward in 4 hours

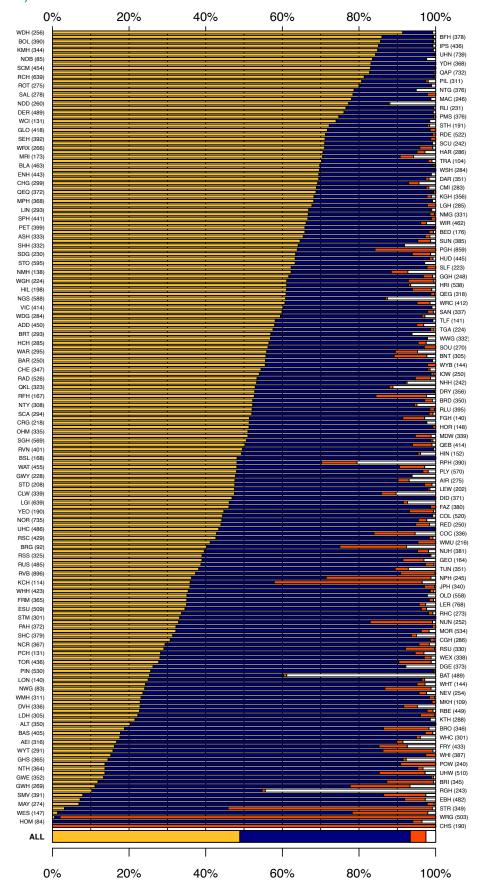
(Blue Book Standard 1)

#### NICE CG 124

The BOA/BGS blue book sets out the rationale for a team approach to hip fracture care. One crucial step is the rapid transfer to the ward where the team is based, usually an orthopaedic ward. Patients may be 'fast tracked' out of A&E within National or local target times, but if as a consequence they become outliers, their overall care may be less satisfactory.

The mounting pressure on A&E departments has impacted on hospitals across the UK and it is not surprising that the number of hip fracture patients getting to the appropriate ward within four hours has fallen from 52% to 50%.

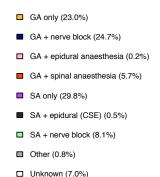
- Orth ward admission within 4 hours (48.9%)
- Orth ward admission
- Not admitted to orth ward (4.1%)
- ☐ Unknown (2.5%)

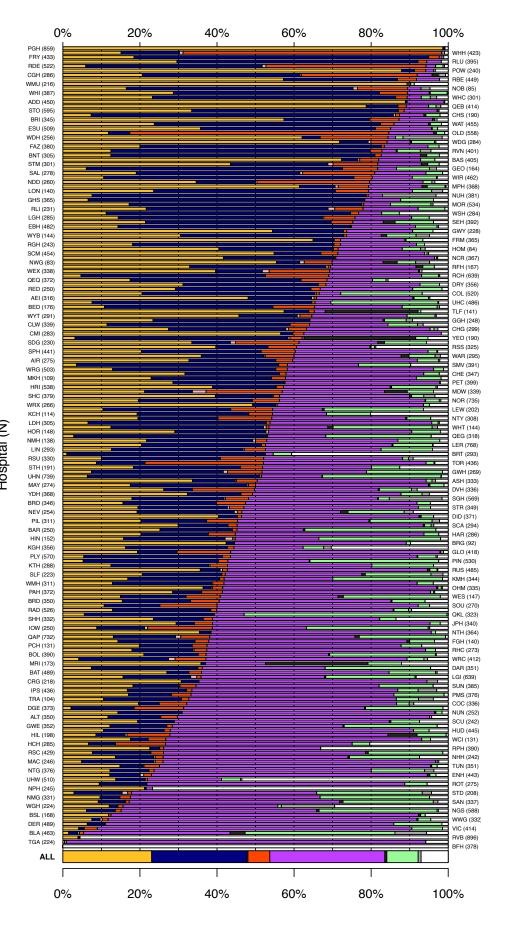


## Chart 5 - Type of anaesthesia

#### NICE CG 124

Since the 2012 report the percentage of 'unknown's has fallen from 11.3% to 7%. Of these patients 47.4% have spinal anaesthesia, unchanged from 2012 (47.8%). The percentage of patients having a general anaesthetic ranges from 2% to 98%. The 'Hip fracture ASAP' sprint audit (which is due to be published early in 2014) will further identify how hospitals comply with the standards of the AAGBI guidelines.





## Time to surgery

We present three charts on time to surgery. Surgery within 36 hours of admission is a BPT criterion whilst surgery on 'the day of or the day after admission' is a NICE guideline and surgery within 48 hours and during normal working hours is a Blue Book standard.

The first two charts are extremely similar, with an average compliance of 71% (up from 67% in 2012). The range from 14% to 94% demonstrates clearly how care varies around the UK. Four of the five hospitals with less than 40% of patients operated on within 36 hours are situated in Northern Ireland which operates a centralised 'hub and spoke' service.

The third chart, surgery within 48 hours and during normal working hours, excludes people who break their hips in hospital or who remain medically unfit at 48 hours, consequently we would expect almost 100% of hospitals to comply with this standard. It is pleasing to see the average rise from 82.4 in 2012 to 85.4%, but the range shows unacceptable variation – from 44% to 98%.

The reason for delay at 36 hours is now recorded for 91.3% of patients, an improvement on 85.8% in 2012.

Nationally, the cause for delay continues to be attributed evenly between medical and administrative causes, but the percentage of delays for administrative reasons varies between different units – from 0% to 79%.

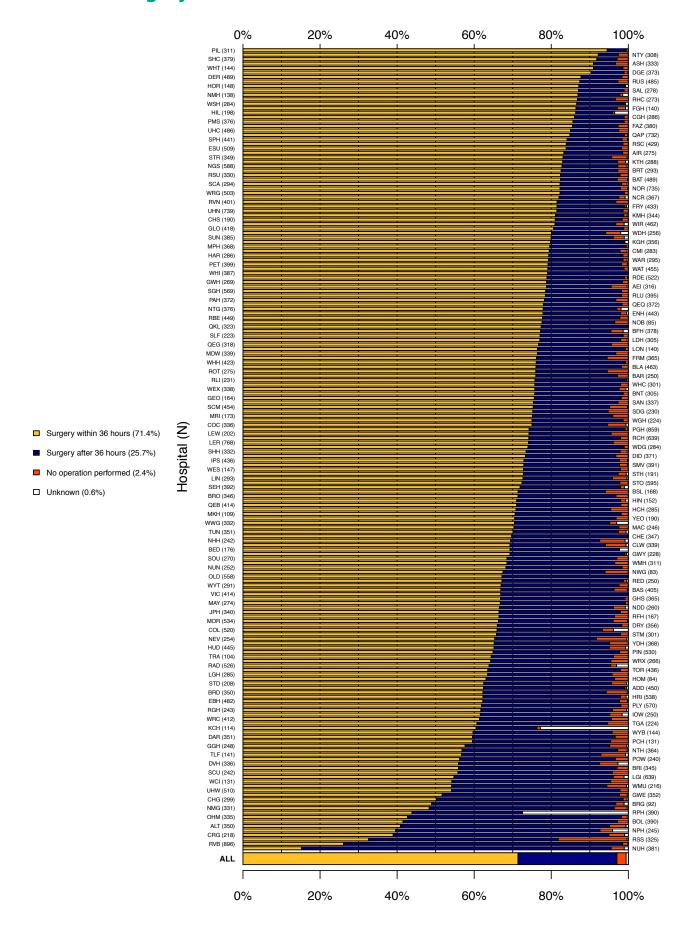
There is clearly an opportunity for providers to review their provision of trauma lists as this is by far the commonest reason for delay accounting for 40% of known causes.

The cumulative time to theatre chart shows a consistent year on year improvement as time to theatre is reduced across the hospitals participating in the NHFD.

There is no evidence of any generalised 'gaming', or suggestion that patients who are at the point of breaching the BPT 36 hour limit are being prioritised at the expense of those who have already breached. The variance of the curve every 24 hours appears to result from the diurnal rhythm of admissions (which predominantly occur between 11:00 and 23:00), and of trauma operating lists (which are mainly between 08:00 and 20:00).

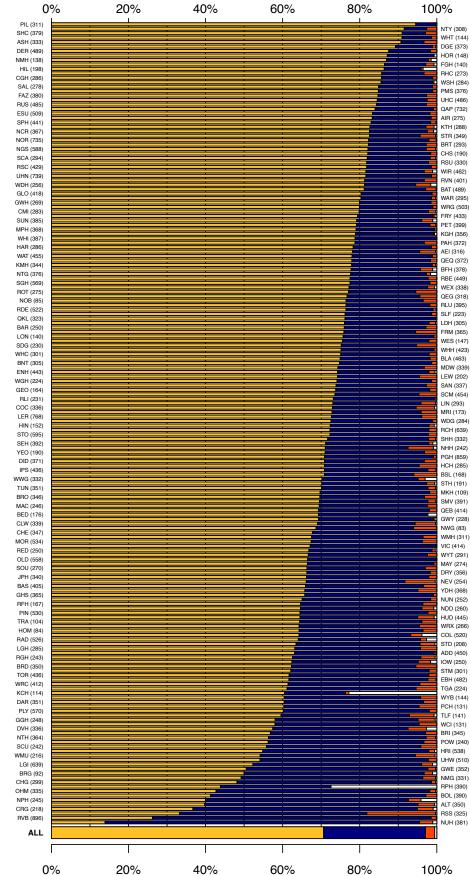
The percentage of patients not treated with surgery has fallen from 2.8% in 2011 to 2.4%. The range however is from 0% to 18%. Only one hospital (RSS) continues to treat more than 10% of its patients non-surgically.

## Chart 6 - Surgery within 36 hours of admission



### Chart 7 - Surgery on the day of or day after admission

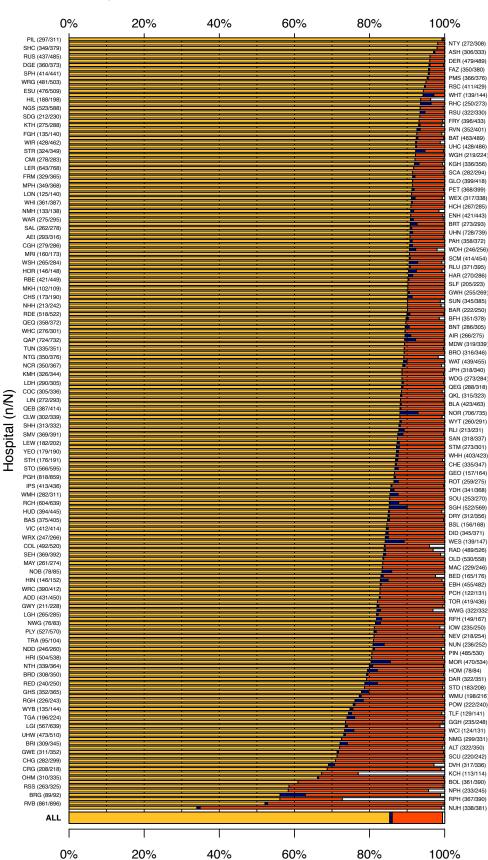
NICE CG 124



Surgery on day of, or day after, admission (70.6%)

☐ Unknown (0.5%)

## Chart 8 – Surgery within 48 hours and during normal working hours (Blue Book Standard 2)



Surgery within 48 hours &

during working hours (85.4%)

not during working hours (0.7%)

Surgery within 48 hours but

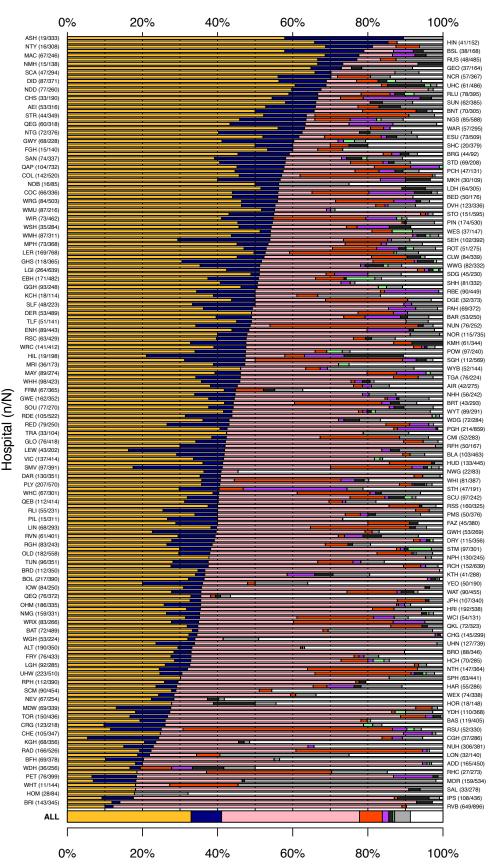
Surgery not within 48 hours (13.4%)

☐ Unknown (0.6%)

hospital or known to have not received surgery.

Excludes patients known to be medically unfit, known to be admitted from

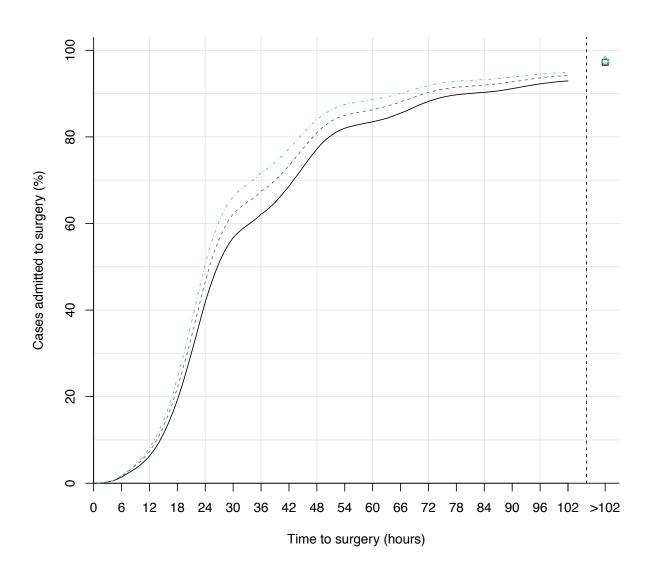
### Chart 9 – Reason for delay beyond 36 hours



Includes only patients who underwent surgery after 36 hours. Hospitals with fewer than 10 patients delayed by 36 hours or more are not plotted.

- Medically unfit awaiting orthopaedic diagnosis or investigation (8.1%)
- Admin/logistic awaiting space on theatre list (36.7%)
- Admin/logistic cancelled due to list over–run (6.1%)
- Admin/logistic problem with theatre/surgical/anaesthetic staff cover (1.7%)
- Admin/logistic problem with theatre/equipment (1.1%)
- Admin/logistic awaiting inpatient or high dependency bed (0.5%)
- Other (4.2%)
- ☐ Unknown (8.7%)

## **Chart 10 – Cumulative time to surgery**



Excludes cases with unknown type of surgery.

2012–2013 - O - 2011–2012 - D - 2010–2011

### Chart 11 - Patients treated without surgery

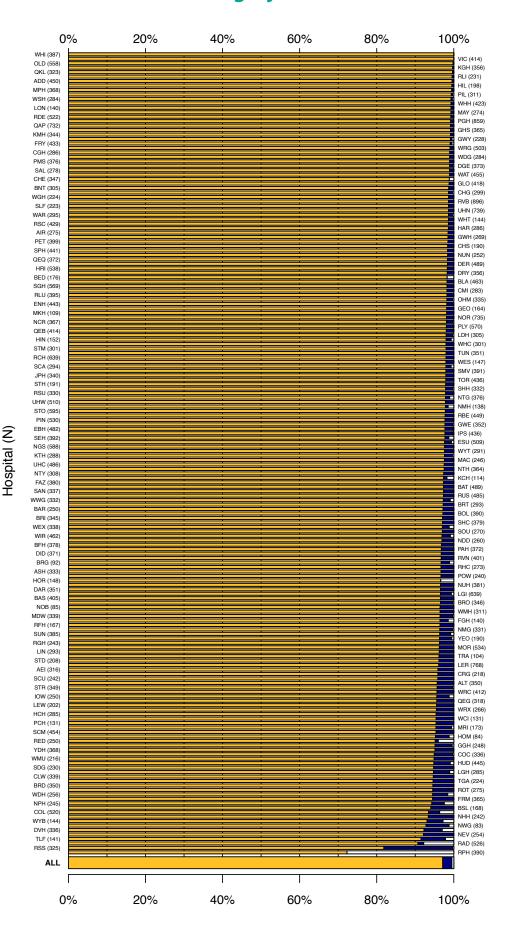
NICE CG 124



■ Surgery (97.1%)

■ No surgery (2.4%)

☐ Unknown (0.5%)

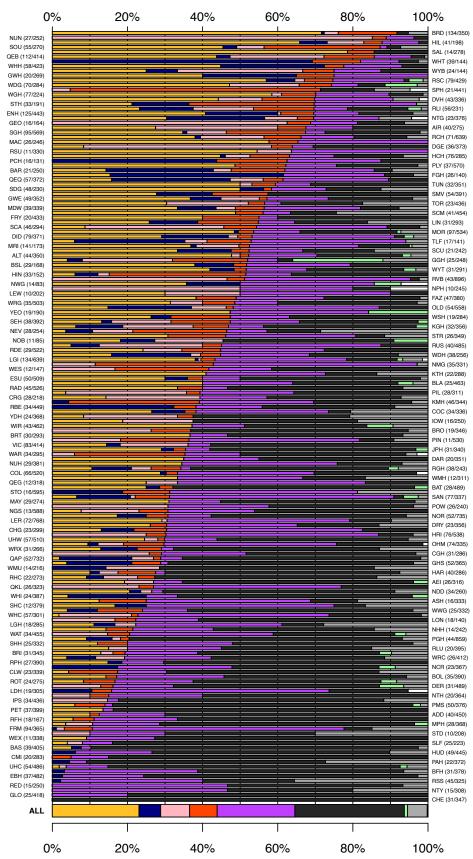


## Operations performed by fracture type Chart 12 – Undisplaced intracapsular fractures

NICE CG124 and the Blue Book recommend internal fixation of undisplaced intracapsular fractures. The percentage of patients having an internal fixation has risen from 49.1% in 2012 to 49.9%. There remains some doubt as to whether or not this is due to misclassification of the fractures.



- Unipolar hemi (uncemented) (5.8%)
- Arthroplasty
  Bipolar hemi (cemented) (7.7%)
- Arthroplasty Other (7.3%)
- Internal fixation SHS (20.7%)
- Internal fixation Screws (29.2%)
- Other (0.9%)
- No operation performed (5.2%)
- ☐ Unknown (0.2%)

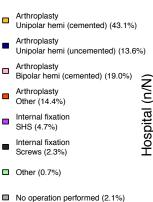


Hospitals with less than 10 cases with an undisplaced intracapsular fracture are excluded.

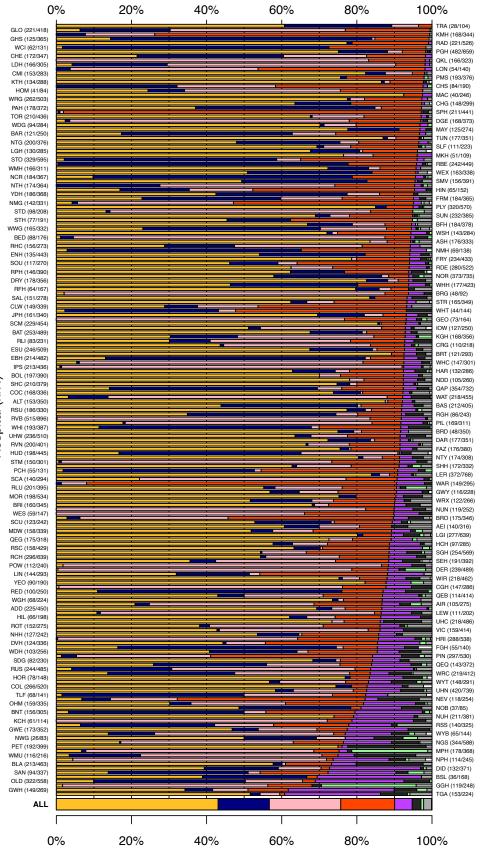
### Chart 13 - Displaced intracapsular fractures

#### NICE CG 124

There has been a slight fall in the percentage of patients having an arthroplasty from 93% to 90.1%.



☐ Unknown (0.1%)



Hospitals with less than 10 cases with a displaced intracapsular fracture are excluded.

### Chart 14 - Cementing of arthroplasties<sup>\*</sup>

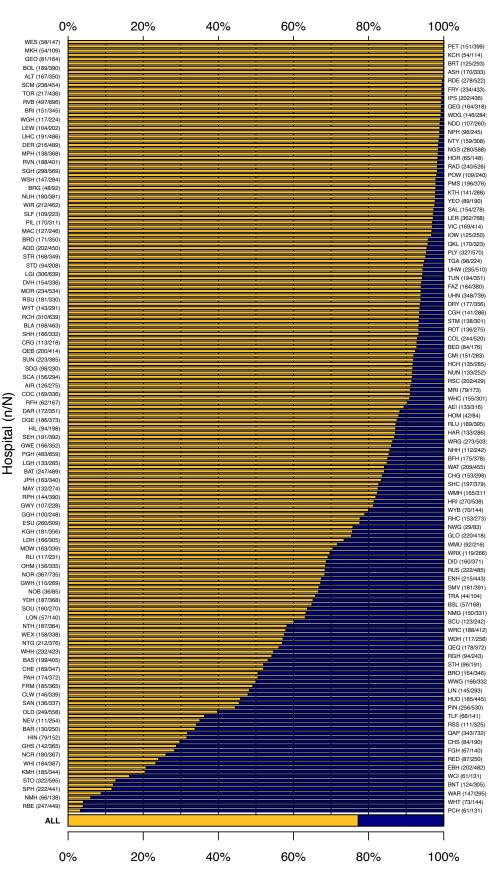
#### NICE CG 124

This is recommended in NICE CG 124 and the rate has risen from 63% in 2010 to 77.2% in 2013. The range is from 3% to 100%.



□ Cemented (77.2%)

■ Uncemented (22.8%)

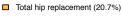


Includes all patients who underwent arthroplasty.

## Chart 15 – Total hip replacement for displaced intracapsular fractures

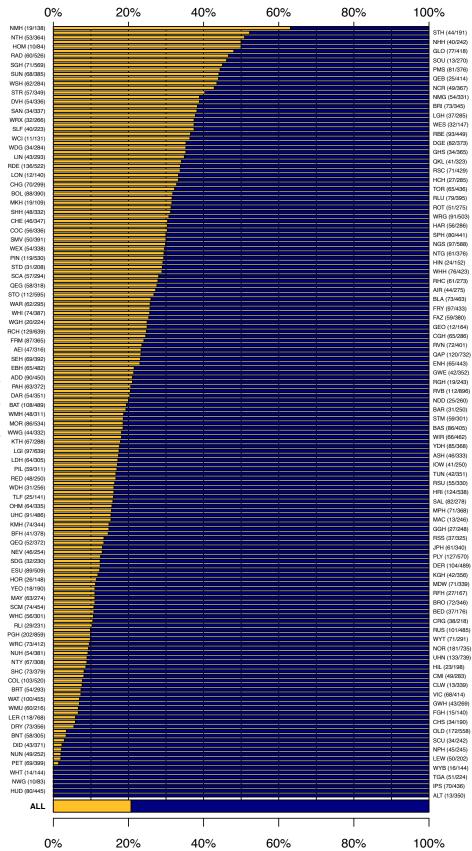
#### NICE CG 124

The percentage has risen from 10.7% in 2011 to 20.7% in 2013, a very swift response to clinical guidance.



Hospital (n/N)

■ Other operation (79.3%)

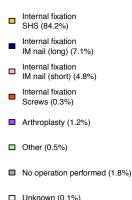


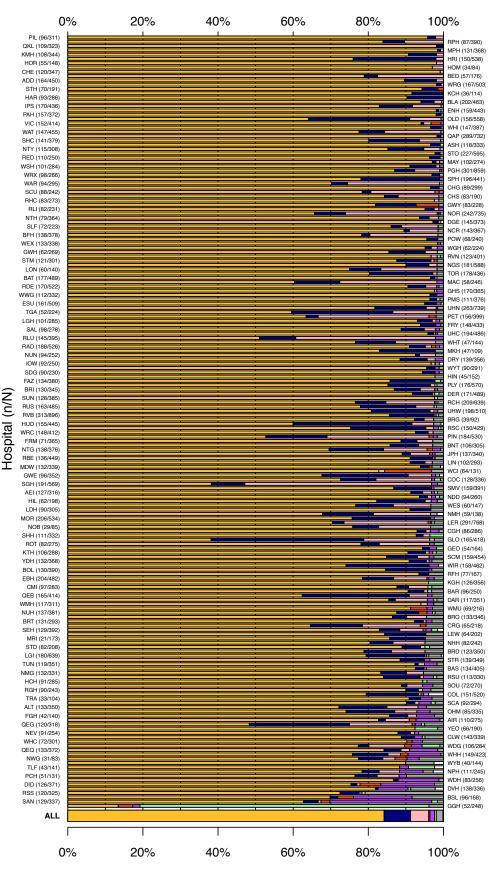
Eligible cases: displaced intracapsular fracture, able to walk outdoors with no aids or one aid, pre-operative AMTS greater than 7, ASA Grade of 3 or less and received an operation. Hospitals with less than 10 eligible cases are excluded.

### **Chart 16 – Intertrochanteric fractures**

#### NICE CG 124

There has been a shift in the proportion of long to short, intramedullary nails, with long nails now being used 60% of the time compared with 54% in 2012.





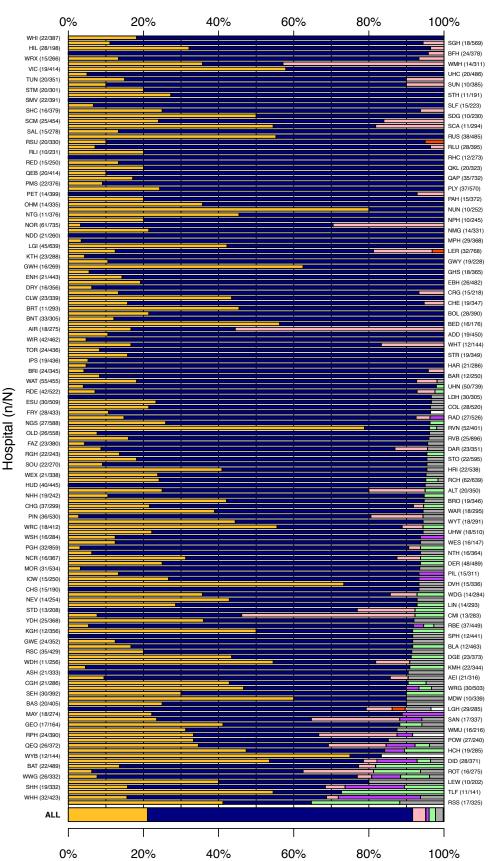
Hospitals with less than 10 cases with an intertrochanteric fracture are excluded.

#### **Chart 17 – Subtrochanteric fractures**

#### NICE CG 124

The percentage of long intramedullary nails has risen from 63.6% in 2012 to 70.6% in keeping with NICE CG 124 guidance.

- Internal fixation SHS (21.0%)
- Internal fixationIM nail (long) (70.6%)
- Internal fixation
  IM nail (short) (3.5%)
- Internal fixation Screws (0.1%)
- Arthroplasty (0.8%)
- Other (1.7%)
- No operation performed (2.1%)
- ☐ Unknown (0.2%)



Hospitals with less than 10 cases with a subtrochanteric fracture are excluded.

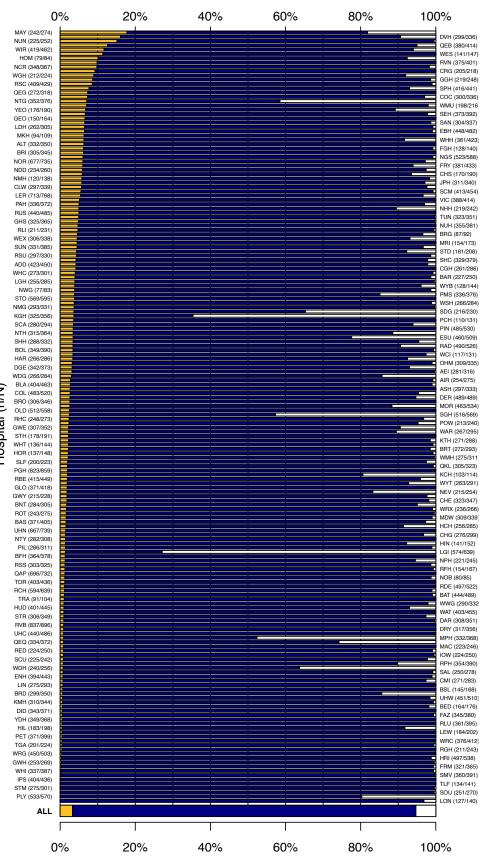
## Chart 18 - Development of pressure ulcers

(Blue Book Standard 3)

#### NICE CG 124

The incidence of pressure ulcers has fallen from 3.7% in 2012 to 3.3%, with a further fall in 'unknowns' showing that surveillance for pressure ulcers has improved in the majority of hospitals.

- Pressure ulcers (3.3%)
- No pressure ulcers (91.4%)
- ☐ Unknown (5.3%)



Excludes cases who died in hospital.

## Chart 19 – Pre-operative medical assessments

(Blue Book Standard 4)

In the 2012 report we reminded users that this standard was designed to capture review by doctors of grade ST3<sup> or above</sup>. Since a number of hospitals have persisted in including reviews by Foundation doctors\*, they have been excluded from this chart. The percentage of patients reviewed routinely by a geriatrician has risen to 47.1% compared with 24% in 2009, due in part to the influence of BPT in England. In 42 hospitals fewer than half of the patients receive senior assessment prior to surgery.

Already under care of

geriatrician or physician (5.7%)

■ Routine by geriatrician (48.6%)

■ Routine by physician (7.8%)

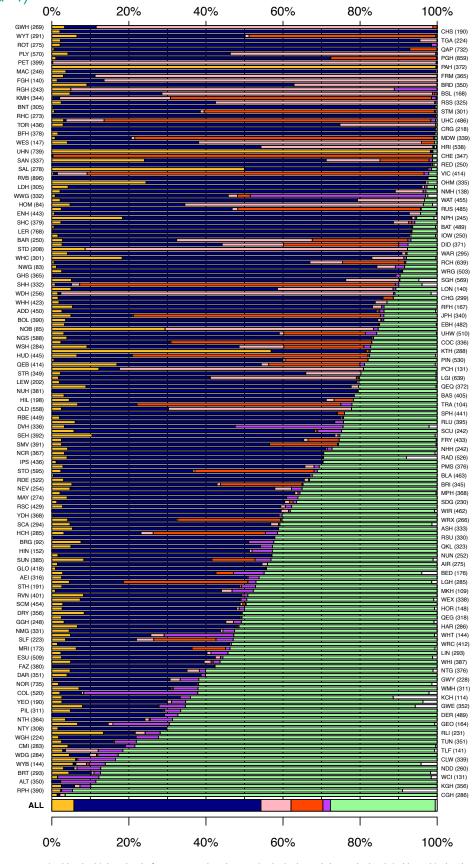
Medical review following request (2.0%)

Routine by specialist

■ No assessment (27.2%)

nurse (8.3%)

☐ Unknown (0.5%)



Cases are categorised by the highest level of assessment that they received. The legend shows the levels in hierarchical order.

Six hospitals excluded due to misinterpretation of the preoperative medical assessment field.

## Chart 20 - Bone health assessment and treatment at discharge

Both bone health and falls assessments have continued to make marginal improvements, with very few patients receiving no secondary prevention.

■ Started on this admission (56.9%)

Awaits DXA scan (8.0%)

Awaits hone clinic

assessment (3.5%)

Assessed – no bone

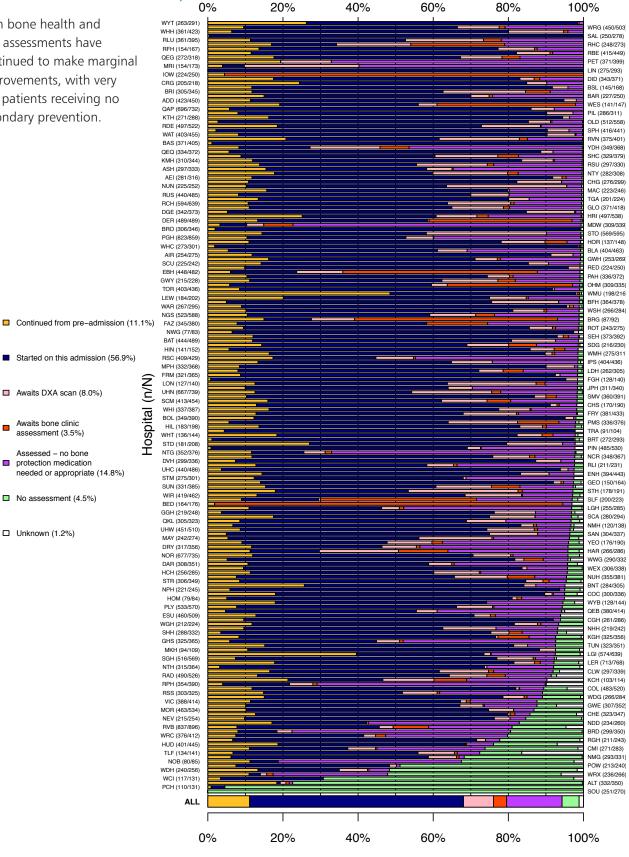
protection medication

■ No assessment (4.5%)

☐ Unknown (1.2%)

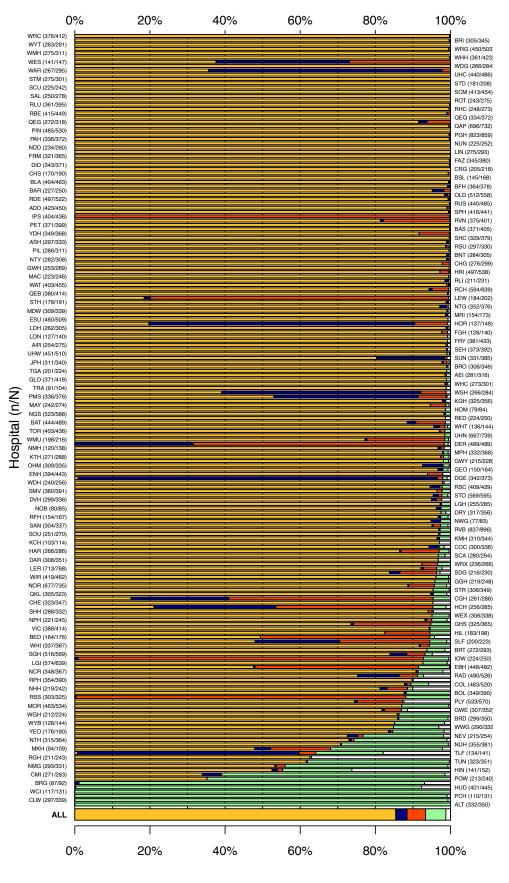
needed or appropriate (14.8%)

(Blue Book Standard 5)



Excludes cases who died in hospital. Cases are categorised by the highest level of bone health assessment that they received. The legend shows the levels in hierarchical order.

## Chart 21 – Specialist falls assessment (Blue Book Standard 6)



Excludes cases who died in hospital.

Yes – performed on this admission (85.4%)

clinic assessment (3.0%)

Yes - further intervention

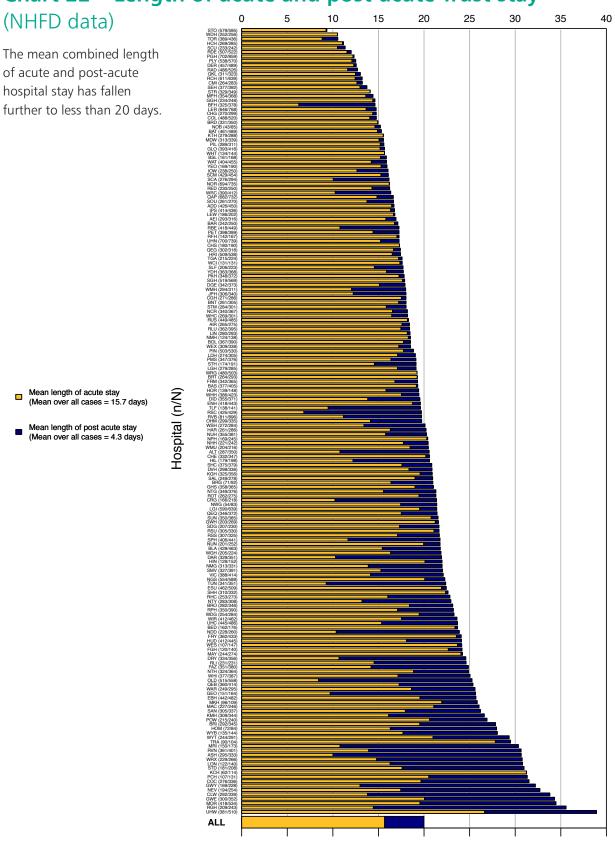
not appropriate (4.9%)

■ No falls assessment (5.4%)

☐ Unknown (1.2%)

Yes - awaits falls

## Chart 22 - Length of acute and post-acute Trust stay

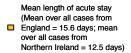


Excludes patients discharged after 31/3/2013. Patients with unknown or implausible length of stay are excluded. CHS, STR and WRG have no dedicated orthopaedic ward. For these hospitals acute stay is measured by Trust stay. WWG is excluded because length of stay data is missing for 93% of patients.

Length of stay (days)

## Chart 23 – Superspell (Third party data sources)

This chart is composed of data from HES (England), PEDW (Wales) and FORD (Northern Ireland). Data are for the period 1 April 2011 to 31 March 2012.

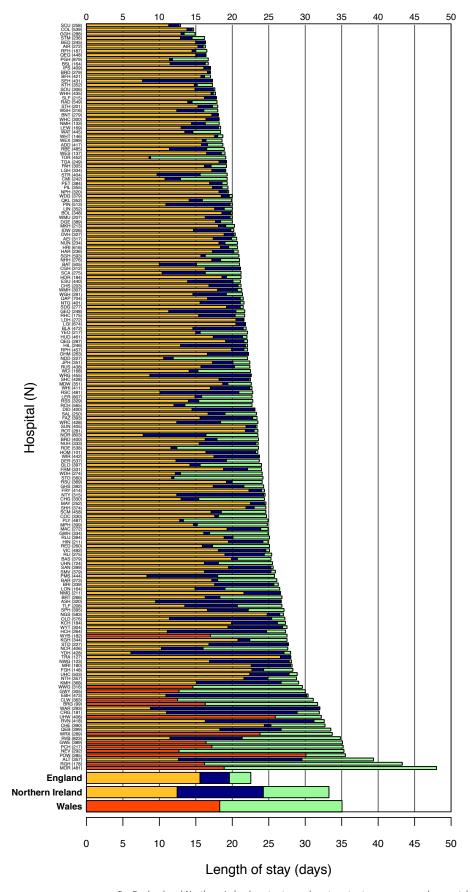


Mean length of post acute stay (Mean over all cases from I England = 4.0 days; mean over all cases from Northern Ireland = 11.8 days)

Mean length of hospital stay

(Mean over all cases from Wales = 18.3 days)

Mean length of rehab stay (Mean over all cases from England = 2.9 days; mean □ over all cases from Northern Ireland = 9.0 days; mean over all cases from Wales = 16.8 days)



For England and Northern Ireland acute stay and post acute stay are measured separately. For Wales only hospital stay (acute stay and post acute stay combined) is measured.

## **Chart 24 – Discharge destination from Trust**

These remain largely unchanged since 2012

Own home/sheltered

Rehabilitation unit (19.6%)

housing (46.4%)

■ Acute hospital (1.0%)

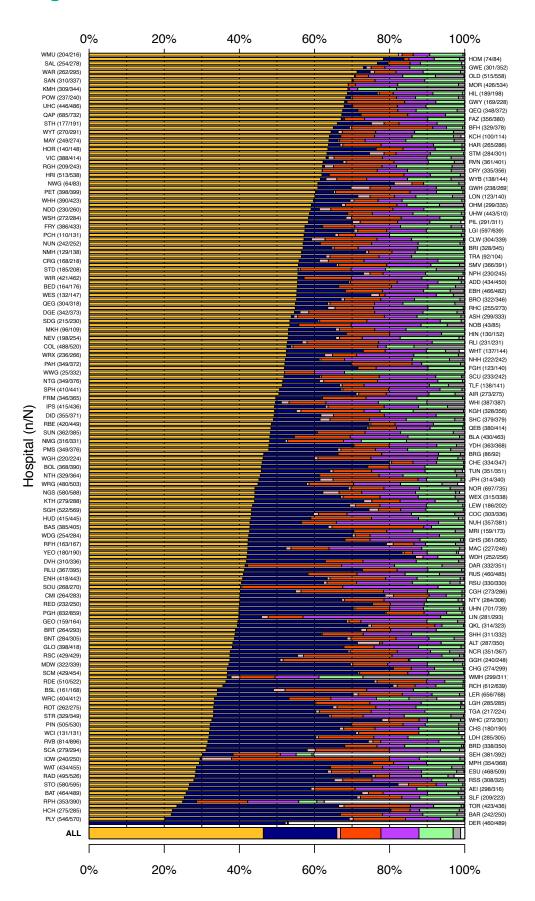
■ Nursing care (10.1%)

Dead (9.1%)

■ Other (2.0%)

□ Unknown (1.1%)

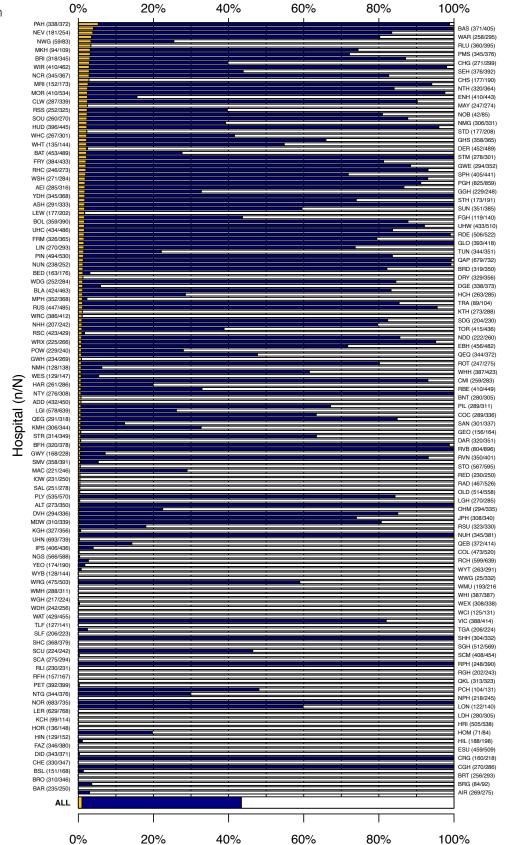
■ Residential care (10.8%)



Excludes patients discharged after 31/3/2013.

## Chart 25 - Re-operation within 30 days

It is difficult to comment on the reoperation data, other than to note how poorly it is recorded.



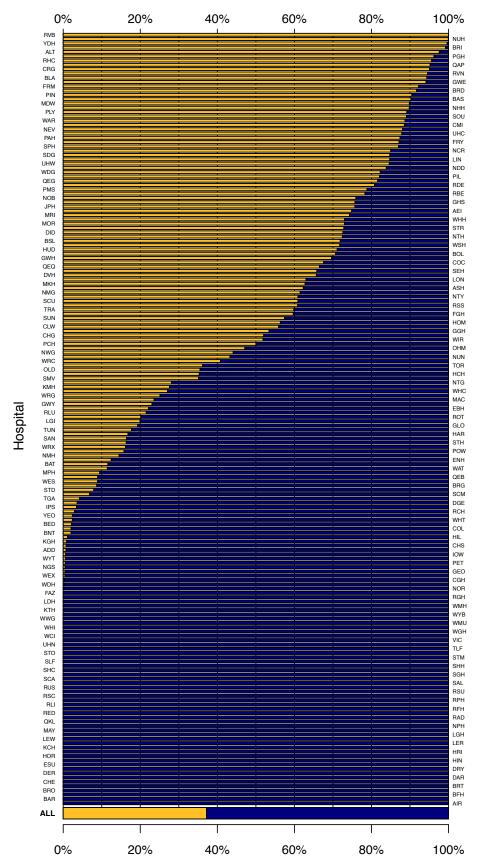
Excludes patients who did not receive surgery or were discharged after 31/3/2013.

- No re-operation within 30 days (42.4%)
- ☐ Unknown (56.6%)

## Chart 26 – Follow up data completeness at 30 days

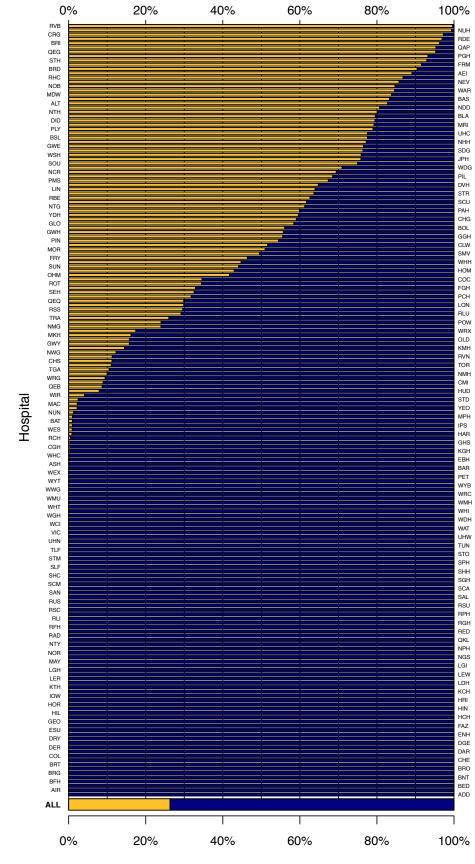
There has been a marginal improvement in 30 day follow up data but no change in 120 follow up data.

Complete (37.2%)Not complete (62.8%)



Completeness of six fields about patient condition 30 days after admission for patients not recorded to be dead at 30 days.

## Chart 27 - Follow up data completeness at 120 days



Completeness of six fields about patient condition 120 days after admission for patients not recorded to be dead at 120 days.

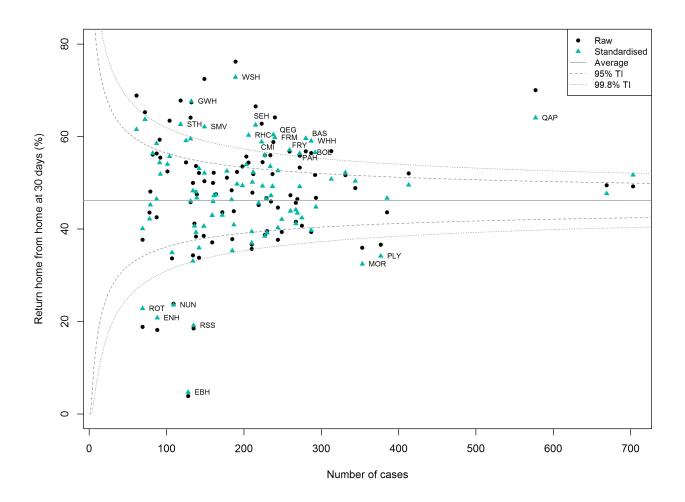
Complete (26.3%)Not complete (73.7%)

## Casemix adjusted outcomes

## Chart 28 – Return home from home at 30 days for 2012 to 2013

Cases were eligible for the 'return home from home' analysis if they were admitted from their own home between 1 March 2012 and 28 February 2013 inclusive. This time period is a month earlier than that of the remainder of the report – to allow for 30 day follow-up.

There were 46,093 eligible cases but residential status at 30 days was missing for 55.2% of these cases. Cases with missing residential status were excluded, and so the return home from home data set includes 20,634 cases.



The classification tree for this analysis is shown in Appendix D. The most important predictors of return home from home at 30 days are whether accompanied to walk outdoors, age and ASA grade. The tree was used to calculate standardised 30 day return home from home rates displayed in this funnel plot.

Hospitals were excluded from the funnel plot if fewer than 60 cases were available for the return home from home analysis (Appendix D).

The overall rate of return home from home at 30 days for all cases included in the analysis is 46.2%.

Many hospitals lie outside of the 95% and 99.8% tolerance intervals, but caution is necessary when drawing conclusions about these hospitals. This 'over-dispersion' is a common feature of provider comparison analyses. It may arise because hospitals differ in their policies regarding return home from home or because of the high proportion of missing data.

There are seven hospitals with standardised rates of return home from home at 30 days below the 99.8% tolerance intervals.

The unit with the lowest standardised rate (4.7%) was EBH – with 40.6% (compared to a national average of 12.8%) of those admitted from home still being in the acute hospital, and a further 39.8% (compared to 21.7%) still in a rehabilitation unit at 30 days. This hospital also had the lowest standardised rate of return home from home at 30 days in 2011–12 (4.9%), and the second lowest rate in 2010–11 (11.7%).

The six other hospitals where the standardised return home from home rates are below the 99.8% tolerance interval are RSS, ENH, ROT, NUN, MOR and PLY. Three of these (RSS, NUN and PLY) also had return home from home rates below the 99.8% limit in the 2011–12 analysis.

There are fifteen hospitals with particularly good return home from home rates at 30 days – adjusted return home from home rates are above the 99.8% tolerance interval. The two most impressive are WSH and GWH, each with standardised rates of return home of approximately 70%. Eight of these (FRM, FRY, GWH, PAH, QAP, QEG, RHC and WSH), had performed similarly well in the 2011–12 analysis.

Four hospitals (BAS, CMI, SMV and STH) had return home from home rates between the upper 95% and 99.8% tolerance intervals in the 2011–2012 analysis.

## Chart 29 – Funnel plot for mortality at 30 days

The overall rate of mortality at 30 days is 8.2% across all cases included in this year's analysis.

The classification tree was used to calculate standardised 30 day mortality rates.

The most important predictors of mortality at 30 days are ASA grade, whether accompanied to walk outdoors, age and gender. These case mix factors were also the most important predictors of mortality at 30 days for 2011–12. A number of hospitals that were identified as being potential outliers on an initial analysis were given the opportunity to address issues of missing data (particularly in respect of ASA grade), and missing cases – as described in Appendix F.

The final data submitted after this review was used to recalculate raw and standardised rates, which are displayed in a funnel plot (Chart 29).

Hospitals with unusually high or low standardised 30 day mortality rates are identified in the funnel plot as having an 'alert' or 'alarm' status, indicating the level of concern regarding the units performance. No units have standardised mortality rate outside the 99.8% tolerance interval, e.g. no units have an 'alarm' status.

However five hospitals (FRY, LDH, STR, WAT and WHH) have standardised mortality rates statistically higher than would be expected, and lie outside the 95% tolerance interval – an 'alert'. In one further case, review of the data suggests that the outlying position may reflect poor quality of the unit's casemix data, as their unadjusted rate was well within normal expectations. This illustrates the fact that a hospital may be a statistical outlier due to inaccurate data collection or data entry. Additionally, 'case-mix adjustment may fail to recognise some factor that places an individual at greater risk of dying, and the use of statistical analysis inevitably carries a small risk that a unit may be outside the funnel by chance.

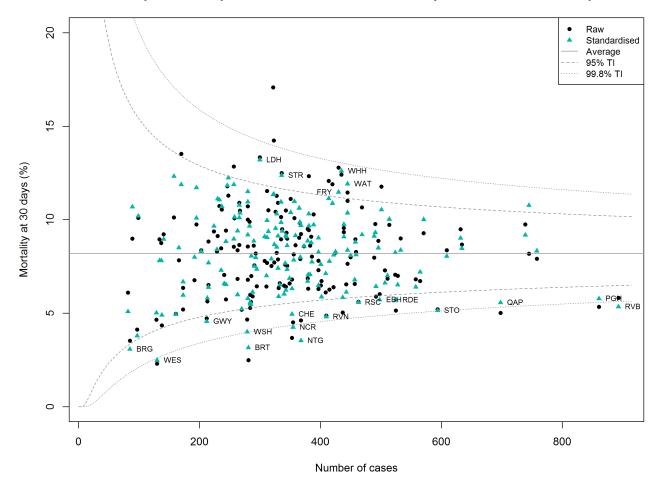


Chart 29: Funnel plot for 30 day mortality based on 2012–13 data

## Chart 30 – Funnel plot for mortality at 30 days for 3 consecutive years

To test the robustness of this year's analysis we used data collected over the past three years (2010–13) to examine trends in performance for the outliers identified in this year's report.

The overall rate of mortality at 30 days in this larger dataset is 8.4%. A higher number of cases supports tighter tolerance intervals so the three year funnel plot will identify more outliers. A number of hospitals showed standardised mortality rates outside the 95% tolerance interval. However, since these units were not outliers in this year's data they are not considered further in this annual report. These units are aware of their potential outlier status and have been requested to undertake the same datachecks that the outlying units for 2012–13 have made. Next year's report will include a unit identifiable three year funnel plot.

The current three year data was used to review performance for the five outliers (FRY, LDH, STR, WAT and WHH) which fell outside the 95% tolerance limit of this year's funnel plot (Chart 29).

- FRY and WHH were not outliers when data collected over the three year period 2010–13 was considered
- STR was identified as an outlier in the 2010–11 report and this year's reports, and remained an outlier in this three year analysis

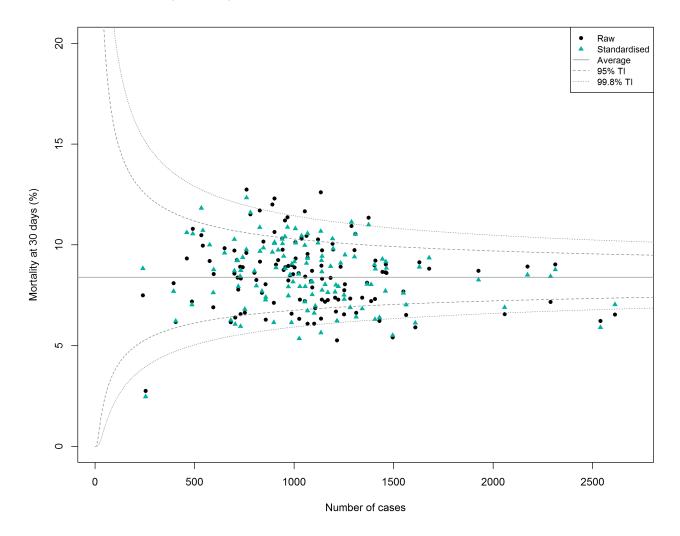


Chart 30: Funnel plot for 30 day mortality based on 2010-13 data

In contrast, two units (LDH and WAT) triggered concerns on 2012–13 data, and these hospitals were confirmed as outliers when the three years' data were analysed.

Over the 2010–13 period both LDH and WAT lay outside the 95% and the 99.8% thresholds for 30 day mortality (Chart 30).

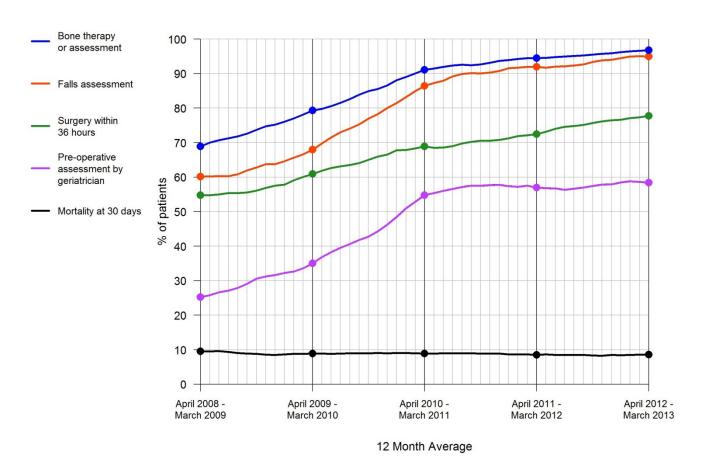
### Chart 31 - Trend analysis

A group of 27 hospitals with longer term NHFD participation, and sustained high levels of case-reporting and data completeness have been monitored over a number of years

Trends in five care quality indicators have been tracked and show year-on-year improvements which, with the exception of mortality, are highly statistically significant.

This analysis is described in detail in Appendix G, and confirms the value of continuous audit in improving both process and outcome.

#### Trends in care, secondary prevention and mortality: April 2008 to March 2013



Data taken from 46794 patients from 27 hospitals with good data completion and case ascertainment over the period 1st April 2008 - 31st March 2013

### **Best Practice Tariff (BPT)**

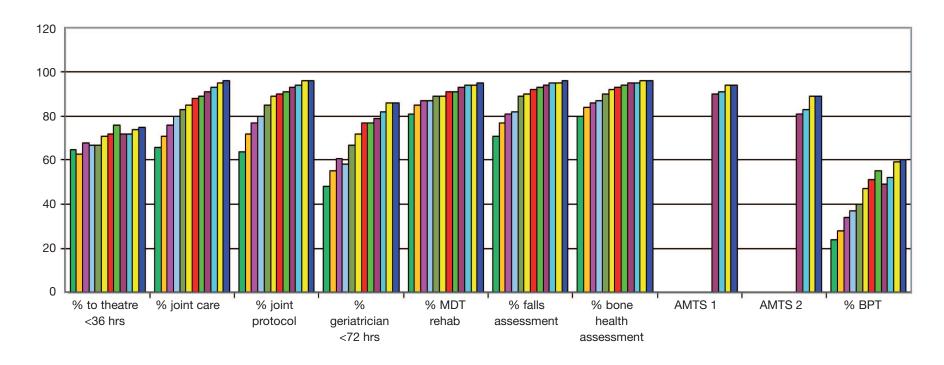
The NHFD – with its extensive coverage and detailed documentation of casemix, care and outcomes – prompted the selection of hip fracture as a topic for the Department of Health's BPT initiative, which applies only in England. BPT offers additional payment for cases the care of which meets agreed standards (surgery within 36 hours; shared care by surgeon and geriatrician; care protocol agreed by geriatrician, surgeon and anaesthetist; pre/post operative cognitive function assessment; perioperative assessment by geriatrician; geriatrician-led multi-disciplinary rehabilitation; secondary prevention including falls and bone health assessment) that are monitored by the NHFD.

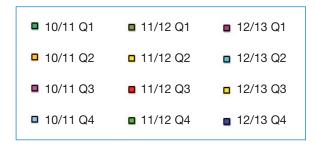
As the table and bar-chart below show, between April 2010 and April 2013 participation has increased steadily quarter by quarter, with the exception of Quarter 1 & Quarter 2 2012/13 – possibly due to the introduction of AMT scores as part of BPT.

Chart 33 has been coloured in a way that demonstrates better how individual hospitals are falling short of Best Practice.

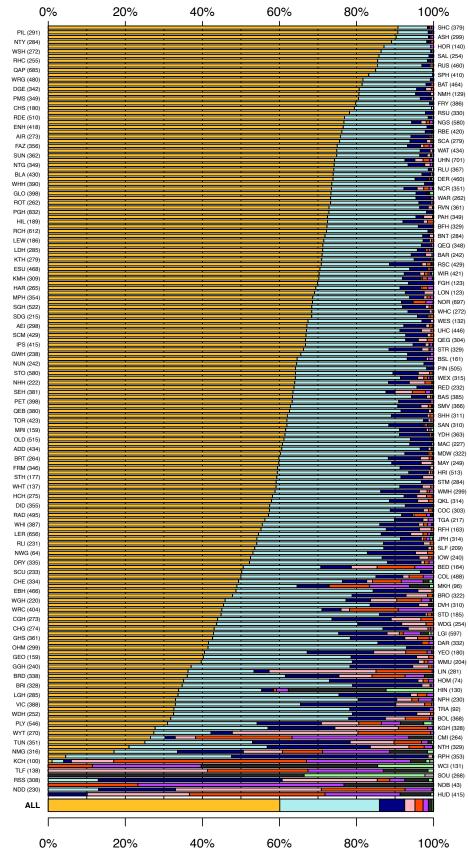
2010/11	Eligible hospitals	Hospitals achieving BPT	Number of pts submitted	Number of pts achieving BPT	Range
Qtr 1	162	92 (57%)	9455	2303 (24%)	2 – 81%
Qtr 2	165	105 (64%)	11839	3328 (28%)	2 – 74%
Qtr 3	163	111 (68%)	13136	4502 (34%)	1 – 83%
Qtr 4	167	118 (71%)	12680	4671 (37%)	1 – 86%
2011/12					
Qtr 1	170	131 (77%)	13070	5210 (40%)	1 – 88%
Qtr 2	166	133 (80%)	13221	6170 (47%)	1 – 89%
Qtr 3	166	138 (82%)	14116	7193 (51%)	2 – 88%
Qtr 4	168	147 (87%)	14046	7654 (55%)	2 – 95%
2012/13					
Qtr 1	166	149 (90%)	13998	6833 (49%)	3 – 93%
Qtr 2	166	150 (91%)	13753	7168 (52%)	4 – 95%
Qtr 3	166	154 (93%)	14158	8373 (59%)	14 – 97%
Qtr 4	166	156 (94%)	14317	8553 (60%)	5 – 95%

## Chart 32 – Quarter by quarter BPT criteria compliance and BPT achievement: 2010–2013





## **Chart 33 – BPT achievement (England only)**



Only includes hospitals in England. No patient met 0 criteria.

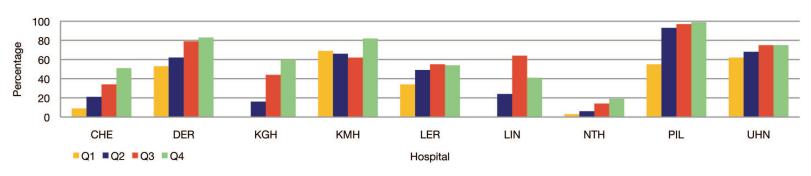
- Ineligible met 8 criteria (25.8%)
- Ineligible met 7 criteria (6.6%)
- Ineligible met 6 criteria (2.7%)
- Ineligible met 5 criteria (2.1%)
- Ineligible met 4 criteria (1.4%)

Hospital (N)

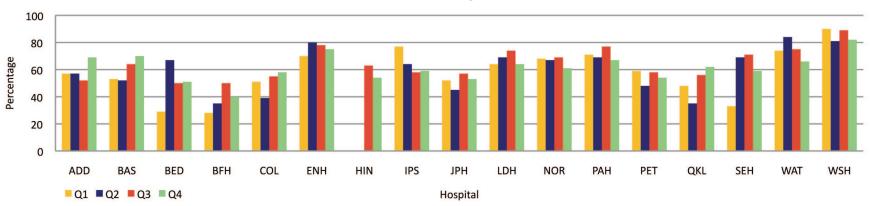
- Ineligible met 3 criteria (1.0%)
- ☐ Ineligible met 2 criteria (0.3%)
- Ineligible met 1 criteria (0.0%)

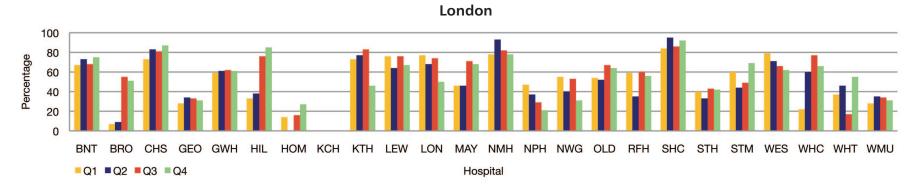
## **Best Practice Tariff – achievement by region**

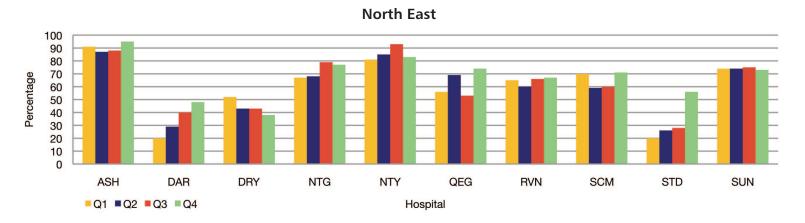
#### **East Midlands**



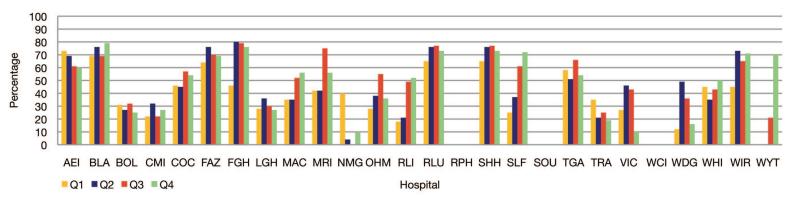
#### **East of England**

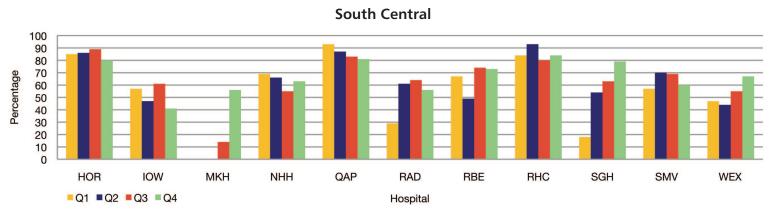




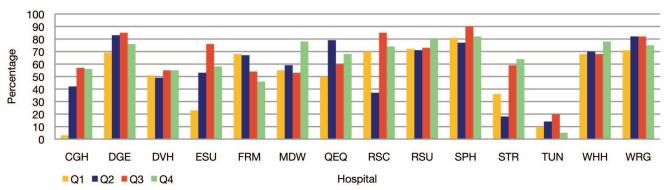


#### **North West**

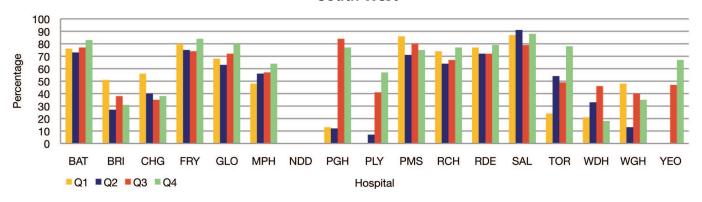




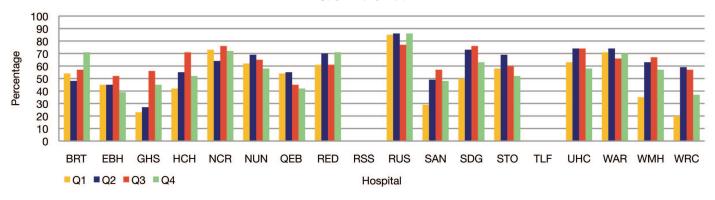
#### **South East Coast**



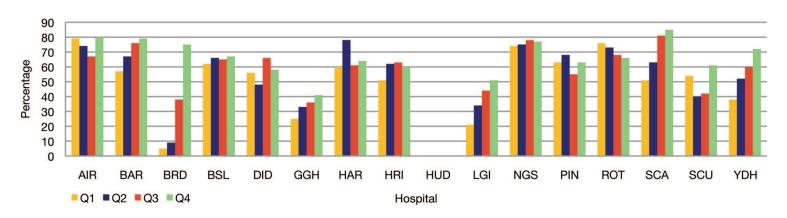
#### **South West**



#### **West Midlands**



#### Yorkshire & the Humber

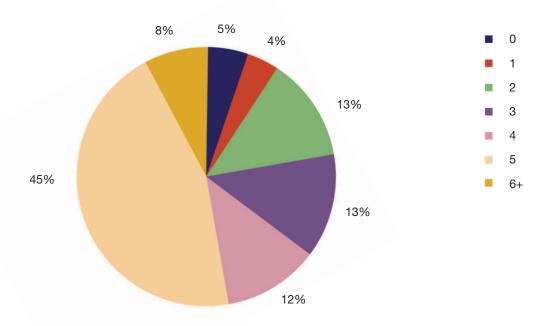


## Facilities audit

Hospitals vary considerably in the way in which they offer treatment to hip fracture patients. In order to understand those differences better, hospitals are asked to submit data about their staff and facilities.

#### **Facilities Audit Chart 1**

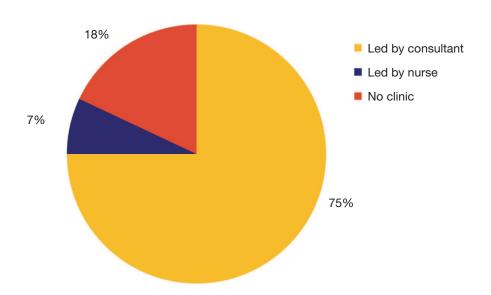
#### Number of orthogeriatric ward rounds each week



Since orthogeriatric input is an important factor in the development of care in line with Best Practice Tariff, it is not surprising that daily orthogeriatric ward rounds are increasing in frequency. 53% of hospitals have five or more ward rounds per week compared with 31.8% in 2011. The percentage of hospitals having no orthogeriatric ward rounds is down to 5%, from 14.2% in 2011, with the majority of the hospitals being outside England.

#### **Facilities Audit Chart 2**

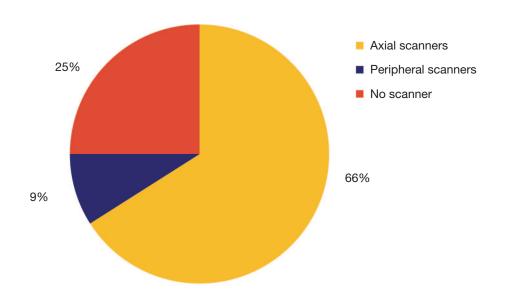
#### On-site falls clinic



The percentage of hospitals providing on-site falls clinics has not changed since 2012

### **Facilities Audit Chart 3**

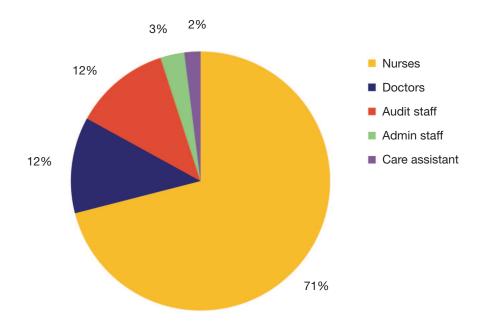
#### **On-site DXA scanners**



The gradual rise in the provision of on-site scanners continues with the total percentage increasing to 75% compared with 68.2% in 2011.

#### **Facilities Audit Chart 4**

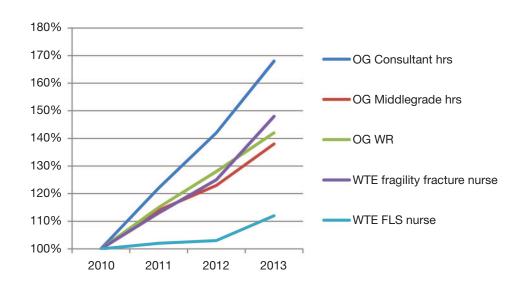
#### **Data collectors**



There has been a marginal increase in the percentage of data collection by nurses, up from 66.5% in 2011 to 71%. In many cases the nurses act as fragility fracture nurses, co-ordinating the care of the hip fracture patients. They are therefore in a position to collect the data concurrent to the episode of care.

## Trends in the staffing of units

Since the introduction of Best Practice Tariff in England in 2010 there has been a significant financial incentive to provide joint orthopaedic/orthogeriatric care for hip fracture patients. This chart shows a continuation the rise of orthogeriatric provision.



Unsurprisingly, the greatest rise is in the hours of consultant orthogeriatrician time allocated to the trauma wards, 68% in three years.

#### **Fracture liaison**

The secondary prevention of osteoporotic fractures is vitally important, especially since less serious fractures identified at an earlier stage in the osteoporotic process might trigger interventions to prevent hip fractures.

An effective means to achieving this is the Fracture Liaison Service, where specially trained staff identify patients with fragility fractures and assess their treatment requirements.

It is gratifying to see an increase in the time allocated to fracture liaison work, up 12% since 2010. However, disappointingly 64% of hospitals say that they have no Fracture Liaison Nurse, an indication that there is still considerable scope for service improvement.

# Regional summary tables

#### **East Midlands**

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post-acute stay (days)	Mean (5D) total length of stay – acute + post-acute (days)
Chesterfield Royal Hospital	CHE	390	347	89.0	90.5	55.3	86.9	0.3	1.9	85.5	100.0	20.2 (14.9)	0.39 (3.3)	20.6 (14.9)
Derbyshire Royal Infirmary, Derby	DER	570	489	85.8	92.3	76.5	96.0	29.2	2.8	61.1	99.0	12.3 (10.2)	0.26 (1.9)	12.6 (10.5)
Kettering General Hospital	KGH	300	356	118.7	85.6	69.0	92.5	5.9	10.4	84.2	100.0	19.6 (16.2)	1.32 (7.4)	20.9 (18.0)
King's Mill Hospital, Sutton in Ashfield	KMH	360	344	95.6	96.1	85.4	88.9	2.0	0.6	91.0	97.1	16.1 (14.3)	10.48 (17.3)	26.6 (21.4)
Leicester Royal Infirmary	LER	900	768	85.3	92.1	36.0	91.8	93.2	5.7	86.2	98.6	13.7 (9.3)	1.09 (4.9)	14.7 (10.0)
Lincoln County Hospital	LIN	390	293	75.1	93.8	67.6	88.6	40.3	0.7	100.0	100.0	18.2 (15.1)	0.30 (2.8)	18.5 (15.3)
Northampton General Hospital	NTH	376	364	96.8	92.5	14.2	80.2	24.2	3.9	92.3	75.0	18.9 (13.5)	6.02 (18.2)	24.9 (23.5)
Pilgrim Hospital, Boston	PIL	330	311	94.2	97.7	82.3	99.7	28.9	1.4	93.0	99.7	15.2 (10.3)	0.38 (3.7)	15.6 (10.6)
University Hospital Nottingham	UHN	830	739	89.0	94.0	84.4	90.8	98.9	1.5	74.9	98.5	15.2 (11.1)	2.02 (7.4)	17.3 (12.7)
EAST MIDLANDS		4446	4011	90.2	92.7	62.8	90.9	47.8	2.9	83.1	96.9	16.0 (12.7)	2.2 (9.3)	18.3 (15.6)
ENGLAND		58639	55998	95.5	94.3	51.6	87.3	53.8	3.5	85.0	96.5	15.6 (12.9)	3.6 (11.5)	19.2 (16.6)
OVERALL		64385	61508	95.5	93.9	50.2	85.8	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

## **East of England**

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post- acute stay (days)	Mean (SD) total length of stay – acute + post-acute (days)
Addenbrooke's Hospital, Cambridge	ADD	480	450	93.8	94.5	59.9	83.0	84.6	4.3	96.7	99.8	16.5 (10.3)	0.24 (3.5)	16.7 (10.7)
Basildon and Thurrock University Hospital	BAS	388	405	104.4	98.5	17.9	85.0	78.5	1.7	99.5	99.7	19.2 (15.9)	0.14 (1.5)	19.3 (15.9)
Bedford Hospital	BED	220	176	80.0	93.5	66.3	85.1	44.4	0.6	4.4	98.7	23.4 (19.4)	0.28 (2.6)	23.7 (19.4)
Broomfield Hospital	BFH	468	378	80.8	88.3	86.4	91.0	99.5	1.4	81.3	100.0	6.3 (6.3)	8.35 (9.2)	14.6 (11.3)
Colchester General Hospital	COL	550	520	94.5	92.5	44.8	87.5	7.9	2.8	92.4	94.9	14.1 (10.1)	0.71 (3.8)	14.8 (10.4)
East & North Herts	ENH	480	443	92.3	95.3	70.3	91.4	93.0	0.8	92.2	100.0	18.8 (12.5)	0.84 (5.0)	19.6 (13.4)
Hinchingbrooke Hospital	HIN	200	152	76.0	89.3	51.4	83.4	51.3	1.5	90.6	75.0	20.1 (16.8)	1.86 (6.2)	22.0 (18.3)
Ipswich Hospital	IPS	438	436	99.5	94.2	85.7	85.9	70.4	0.2	88.3	100.0	16.3 (10.7)	0.42 (2.1)	16.8 (10.8)
James Paget University Hospital, Great Yarmouth	JPH	400	340	85.0	97.0	36.0	88.7	20.9	6.0	92.6	99.4	12.2 (8.8)	5.76 (15.8)	18.0 (18.7)
Luton and Dunstable Hospital	LDH	300	305	101.7	93.7	22.4	88.9	96.7	6.5	87.0	99.6	17.1 (14.5)	1.93 (7.4)	19.0 (16.5)
Norfolk and Norwich University Hospital	NOR	800	735	91.9	98.6	45.3	88.2	38.2	6.2	86.1	96.7	16.2 (11.6)	0.00 (0.0)	16.2 (11.6)
The Princess Alexandra Hospital, Harlow	PAH	350	372	106.3	98.7	32.3	90.8	99.7	5.2	92.3	100.0	17.3 (12.3)	0.55 (3.5)	17.8 (13.6)
Peterborough District Hospital	PET	400	399	99.8	94.4	65.9	91.6	0.3	0.5	86.5	100.0	14.4 (11.5)	2.84 (9.5)	17.3 (15.2)
Queen Elizabeth Hospital, King's Lynn	QKL	350	323	92.3	91.9	59.6	88.3	54.2	2.0	87.1	96.4	12.5 (8.3)	0.52 (4.8)	13.0 (9.1)
Southend Hospital	SEH	485	392	80.8	93.4	71.2	84.7	73.8	6.8	96.7	100.0	13.0 (8.1)	0.75 (3.4)	13.7 (7.8)
Watford General Hospital	WAT	450	455	101.1	94.6	49.5	89.1	79.3	1.0	92.1	99.8	14.2 (9.6)	1.66 (8.2)	15.9 (12.6)
West Suffolk Hospital, Bury St. Edmunds	WSH	324	284	87.7	97.4	69.7	91.3	48.6	3.8	90.9	100.0	13.4 (9.0)	6.69 (11.9)	20.1 (15.4)
EAST OF ENGLAND		7083	6565	92.7	94.8	54.6	88.0	60.6	3.2	88.4	98.5	15.3 (11.9)	1.7 (7.0)	17.0 (13.4)
ENGLAND		58639	55998	95.5	94.3	51.6	87.3	53.8	3.5	84.9	96.5	15.6 (12.9)	3.6 (11.5)	19.2 (16.6)
OVERALL		64385	61508	95.5	93.9	50.2	85.8	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

## London

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post-acute stay (days)	Mean (SD) total length of stay – acute + postacute (days)
Barnet Hospital	BNT	308	305	99.0	93.6	57.0	89.5	99.7	1.9	96.7	100.0	17.2 (11.1)	0.80 (5.2)	18.0 (12.0)
Princess Royal University Hospital, Bromley	BRO	380	346	91.1	91.9	19.1	89.2	1.2	2.6	100.0	99.7	18.4 (13.7)	4.74 (12.1)	23.1 (17.7)
Chase Farm Hospital	CHS	219	190	86.8	94.4	0.0	90.2	100.0	6.3	97.6	100.0	_	_	17.3 (13.2)
St George's Hospital, London	GEO	170	164	96.5	90.8	40.3	86.6	14.7	6.7	95.3	98.7	9.7 (9.0)	15.94 (15.0)	25.7 (15.5)
Queen Elizabeth Hospital, Woolwich	GWH	269	269	100.0	92.1	12.0	90.2	11.5	0.4	92.5	99.6	21.2 (16.2)	0.34 (3.0)	21.6 (16.3)
Hillingdon Hospital	HIL	230	198	86.1	91.3	61.7	97.2	71.2	0.6	91.2	94.5	12.2 (8.2)	8.40 (13.3)	20.6 (14.3)
Homerton Hospital, London	НОМ	80	84	105.0	88.5	0.0	79.5	34.9	11.0	97.3	100.0	16.3 (12.2)	11.65 (22.9)	28.0 (22.2)
King's College Hospital, London	KCH	120	114	95.0	80.2	37.3	87.4	37.6	2.4	75.3	100.0	31.2 (25.8)	0.00 (0.0)	31.2 (25.8)
Kingston Hospital	KTH	350	288	82.3	94.3	21.8	93.8	81.6	2.2	98.2	98.5	15.5 (13.5)	0.00 (0.0)	15.5 (13.5)
University Hospital, Lewisham	LEW	170	202	118.8	94.6	48.2	87.4	79.2	0.5	88.6	99.5	16.6 (11.9)	0.15 (2.0)	16.8 (12.0)
The Royal London Hospital	LON	125	140	112.0	94.5	25.7	91.2	58.6	0.0	72.4	99.2	16.3 (12.8)	14.52 (25.9)	30.8 (27.8)
Mayday University Hospital, London	MAY	300	274	91.3	93.8	7.0	83.5	60.9	21.7	77.4	99.2	24.0 (16.8)	0.17 (1.7)	24.2 (16.8)
North Middlesex University Hospital	NMH	130	138	106.2	94.3	67.2	92.4	89.1	5.9	94.9	100.0	18.3 (14.9)	0.23 (2.4)	18.5 (15.0)
Northwick Park Hospital, London	NPH	275	245	89.1	88.5	36.8	61.0	94.2	1.4	95.9	95.9	20.3 (16.1)	0.09 (1.2)	20.4 (16.0)
Newham General Hospital, London	NWG	100	83	83.0	92.7	24.4	81.6	84.3	3.9	98.7	97.4	17.4 (11.2)	3.94 (16.9)	21.4 (19.8)
Queen's Hospital, Romford	OLD	500	558	111.6	95.3	35.9	83.6	30.3	2.5	93.6	99.8	8.4 (7.0)	16.82 (18.8)	25.3 (19.8)
Royal Free Hospital, London	RFH	210	167	79.5	94.2	54.0	81.9	83.2	1.3	89.6	98.0	17.0 (14.7)	0.23 (2.0)	17.3 (14.6)
St Helier Hospital, Carshalton	SHC	440	379	86.1	94.4	33.1	98.0	88.7	4.3	77.5	99.7	17.6 (13.7)	3.27 (14.1)	20.8 (19.6)
St Thomas' Hospital, London	STH	210	191	91.0	95.7	73.4	87.4	48.7	2.2	66.9	99.4	14.6 (12.1)	4.57 (13.9)	19.1 (17.1)
St. Mary's Hospital, Paddington	STM	300	301	100.3	98.3	33.2	87.2	38.7	0.0	99.3	100.0	15.9 (13.5)	2.17 (7.1)	18.0 (14.3)
Chelsea and Westminster Hospital	WES	160	147	91.9	94.0	1.4	84.2	38.1	11.3	58.2	100.0	23.7 (17.3)	0.46 (4.2)	24.1 (17.9)
Whipps Cross University Hospital	WHC	320	301	94.1	93.8	18.3	89.5	83.3	4.1	99.3	99.6	16.5 (13.8)	1.73 (8.1)	18.2 (16.2)
Whittington Hospital, London	WHT	140	144	102.9	94.7	25.0	94.2	25.9	2.2	89.6	99.3	15.7 (11.4)	0.00 (0.0)	15.7 (11.4)
West Middlesex University Hospital, Isleworth	WMU	220	216	98.2	92.9	41.2	77.7	3.2	7.2	98.5	99.0	18.5 (13.7)	1.99 (10.7)	20.5 (17.0)
LONDON		5726	5444	95.1	93.4	32.3	87.2	55.9	3.8	90.4	99.1	16.5 (13.9)	4.5 (12.8)	20.9 (17.3)
ENGLAND		58639	55998	95.5	94.3	51.6	87.3	53.8	3.5	84.9	96.5	15.6 (12.9)	3.6 (11.5)	19.2 (16.6)
OVERALL		64385	61508	95.5	93.9	50.2	85.8	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

## **Northern Ireland**

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post-acute stay (days)	Mean (SD) total length of stay – acute + post-acute (days)
Altnagelvin Area Hospital	ALT	387	350	90.4	90.3	20.3	72.5	2.3	6.3	20.2	0.0	10.8 (6.9)	9.78 (19.8)	20.6 (20.5)
Craigavon Hospital, Portadown	CRG	250	218	87.2	92.6	52.6	69.4	99.5	9.3	94.6	100.0	10.2 (5.5)	11.13 (18.3)	21.4 (18.4)
Ulster Hospital, Belfast	NUH	375	381	101.6	93.1	40.4	34.3	79.3	4.8	74.1	71.4	15.8 (9.0)	4.47 (9.7)	20.3 (13.3)
Royal Victoria Hospital, Belfast	RVB	924	896	97.0	89.9	37.4	52.2	97.5	1.0	71.2	97.3	11.2 (8.1)	8.56 (19.6)	19.7 (20.5)
NORTHERN IRELAND		1936	1845	95.3	90.9	36.5	54.6	75.9	3.8	64.7	73.6	12.0 (8.2)	8.1 (17.9)	20.2 (18.9)
OVERALL		64385	61508	95.5	93.9	50.2	85.8	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

## **North East**

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post-acute stay (days)	Mean (SD) total length of stay – acute + post-acute (days)
Wansbeck Hospital	ASH	350	333	95.1	98.2	66.5	97.1	58.9	2.7	92.6	99.7	10.0 (7.4)	20.64 (23.0)	30.7 (24.4)
Darlington Memorial Hospital	DAR	327	351	107.3	92.4	70.7	79.2	38.7	1.0	90.4	100.0	10.3 (7.8)	11.61 (18.6)	21.9 (20.4)
University Hospital Of North Durham, Darlington	DRY	320	356	111.3	92.3	53.0	84.9	49.2	0.9	85.8	98.7	10.7 (7.7)	13.89 (17.0)	24.6 (18.5)
University Hospital of North Tees, Stockton on Tees	NTG	380	376	98.9	93.3	82.9	90.7	35.5	12.1	92.2	100.0	15.6 (9.9)	5.72 (13.2)	21.3 (17.2)
North Tyneside General Hospital, North Shields	NTY	330	308	93.3	97.6	54.9	98.2	29.9	1.4	77.0	99.6	13.2 (11.3)	9.74 (20.1)	22.9 (22.0)
Queen Elizabeth Hospital, Gateshead	QEG	320	318	99.4	98.0	61.2	88.5	48.7	7.4	84.2	100.0	16.7 (11.4)	0.75 (4.6)	17.4 (11.7)
Royal Victoria Hospital, Newcastle	RVN	450	401	89.1	97.3	49.9	92.6	49.4	9.9	76.5	100.0	13.9 (11.3)	16.71 (24.5)	30.6 (26.3)
James Cook University Hospital, Middlesbrough	SCM	512	454	88.7	93.2	83.0	90.8	48.9	5.6	79.9	100.0	15.3 (12.1)	0.81 (4.4)	16.1 (12.5)
South Tyneside District Hospital, South Shields	STD	222	208	93.7	91.4	48.1	79.1	8.7	4.8	84.7	100.0	17.6 (13.3)	13.36 (23.8)	31.0 (27.1)
Sunderland Royal Hospital	SUN	420	385	91.7	96.0	65.5	91.2	42.0	4.7	76.5	100.0	20.8 (17.6)	0.74 (4.6)	21.5 (18.5)
NORTH EAST		3631	3490	96.1	95.0	64.8	89.6	42.6	4.9	83.7	99.8	14.4 (11.8)	8.9 (17.9)	23.3 (20.5)
ENGLAND		58639	55998	95.5	94.3	51.6	87.3	53.8	3.5	84.9	96.5	15.6 (12.9)	3.6 (11.5)	19.2 (16.6)
OVERALL		64385	61508	95.5	93.9	50.2	85.8	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

## **North West**

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post-acute stay (days)	Mean (SD) total length of stay – acute + post- acute (days)
Royal Albert Edward Infirmary, Wigan	AEI	330	316	95.8	97.4	18.3	91.1	50.6	3.2	96.4	98.9	15.8 (10.0)	1.11 (8.2)	16.9 (13.2)
Royal Blackburn Hospital	BLA	400	463	115.8	98.0	69.9	88.2	67.0	2.8	91.3	100.0	15.4 (13.3)	6.35 (15.6)	21.8 (19.5)
Royal Bolton Hospital	BOL	380	390	102.6	97.4	86.1	60.9	84.6	3.5	95.7	88.3	17.8 (11.2)	0.75 (6.3)	18.5 (13.1)
Cumberland Infirmary, Carlisle	CMI	250	283	113.2	97.4	70.1	92.4	19.1	0.8	67.0	39.7	12.6 (8.6)	0.58 (5.7)	13.2 (10.3)
Countess of Chester Hospital	COC	320	336	105.0	95.5	45.3	89.1	30.7	7.6	94.2	98.6	19.7 (15.0)	11.84 (22.7)	31.5 (27.0)
University Hospital Aintree	FAZ	400	380	95.0	93.5	46.1	95.7	42.1	0.6	82.6	100.0	14.2 (10.4)	10.66 (18.9)	24.9 (20.9)
Furness General Hospital, Barrow-in-Furness	FGH	120	140	116.7	92.4	52.9	93.3	13.6	6.3	96.8	100.0	22.7 (19.7)	1.50 (8.1)	24.2 (20.1)
Leighton Hospital, Crewe	LGH	280	285	101.8	92.2	67.7	81.9	18.9	3.9	91.3	97.6	17.1 (12.6)	2.04 (11.0)	19.1 (16.8)
Macclesfield General Hospital	MAC	250	246	98.4	92.7	79.0	83.4	99.6	0.9	99.5	99.6	21.1 (15.8)	4.97 (15.5)	26.0 (22.1)
Manchester Royal Infirmary	MRI	190	173	91.1	96.6	74.8	90.6	36.6	4.5	69.5	100.0	10.8 (10.2)	19.55 (23.5)	30.3 (25.0)
North Manchester General Hospital	NMG	300	331	110.3	93.3	67.0	72.8	43.8	3.8	60.3	56.4	13.9 (12.3)	8.09 (12.9)	22.0 (16.6)
Nobles Hospital, Isle of Man	NOB	81	85	104.9	91.3	85.5	83.3	29.4	1.3	69.2	97.5	14.6 (13.8)	0.58 (3.8)	15.2 (14.0)
Royal Oldham Hospital	ОНМ	325	335	103.1	94.4	51.0	66.3	97.0	3.3	61.7	98.4	14.1 (9.9)	5.61 (10.7)	19.7 (14.5)
Royal Lancaster Infirmary	RLI	266	231	86.8	90.7	77.0	87.8	21.6	4.8	89.6	99.5	14.5 (10.5)	10.08 (17.3)	24.6 (19.6)
Royal Liverpool University Hospital	RLU	360	395	109.7	95.2	52.3	90.6	73.4	0.6	74.5	100.0	17.5 (13.0)	0.96 (5.4)	18.4 (13.7)
Royal Preston Hospital	RPH	430	390	90.7	79.7	60.6	77.2	2.8	0.9	91.5	99.7	17.1 (11.9)	6.11 (14.7)	23.2 (19.4)
Stepping Hill Hospital, Stockport	SHH	362	332	91.7	94.3	69.8	87.9	5.3	3.6	88.7	99.6	22.4 (16.8)	0.25 (2.2)	22.6 (17.1)
Hope Hospital, Salford	SLF	220	223	101.4	94.2	62.3	90.2	22.0	2.1	55.8	95.5	14.6 (13.2)	3.15 (15.4)	17.7 (20.8)
Southport District General Hospital	SOU	263	270	102.7	93.8	56.3	85.4	0.4	0.0	0.0	97.2	13.8 (9.8)	2.90 (8.2)	16.7 (13.8)
Tameside General Hospital, Manchester	TGA	350	224	64.0	94.6	57.8	74.0	95.5	0.5	94.0	99.0	17.2 (14.2)	0.38 (3.1)	17.6 (14.5)
Trafford General Hospital, Manchester	TRA	110	104	94.5	94.2	70.9	81.1	22.1	1.1	100.0	100.0	27.8 (22.0)	1.67 (8.8)	29.5 (24.5)
Victoria Hospital, Blackpool	VIC	480	414	86.3	97.1	60.7	84.5	1.4	5.2	85.1	94.6	14.1 (10.6)	7.98 (15.3)	22.1 (17.9)
West Cumberland Hospital, Whitehaven	WCI	150	131	87.3	89.1	75.2	73.4	1.6	3.5	31.6	0.0	17.4 (14.0)	0.25 (2.2)	17.6 (14.2)
Warrington Hospital	WDG	330	284	86.1	94.1	61.2	88.6	9.9	3.5	83.3	100.0	19.5 (13.5)	3.80 (9.4)	23.3 (15.4)
Whiston Hospital, Prescot	WHI	406	387	95.3	93.5	15.2	91.1	39.5	0.3	89.6	94.4	17.2 (12.6)	7.89 (16.0)	25.0 (19.7)
Arrowe Park Hospital, Wirral	WIR	461	462	100.2	97.1	67.8	93.4	59.9	12.4	82.7	96.6	17.5 (12.9)	6.06 (12.3)	23.6 (16.7)
Wythenshawe Hospital, Manchester	WYT	274	291	106.2	94.3	15.9	88.1	50.2	2.0	99.6	100.0	21.0 (17.6)	8.35 (17.2)	29.3 (23.5)
NORTH WEST		8088	7901	97.7	94.1	58.1	84.8	41.5	3.2	80.6	92.3	16.8 (13.2)	5.2 (13.8)	22.0 (18.6)
ENGLAND		58639	55998	95.5	94.3	51.6	87.3	53.8	3.5	84.9	96.5	15.6 (12.9)	3.6 (11.5)	19.2 (16.6)
OVERALL		64385	61508	95.5	93.9	50.2	85.8	52.8	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

## **South Central**

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post- acute stay (days)	Mean (SD) total length of stay – acute + post-acute (days)
Horton Hospital, Banbury	HOR	175	148	84.6	94.0	51.4	91.0	48.3	2.2	82.4	100.0	15.8 (17.6)	3.58 (10.5)	19.4 (19.5)
St.Mary's Hospital, Isle of Wight	IOW	250	250	100.0	94.5	54.2	82.3	93.2	0.9	4.5	93.3	12.7 (10.6)	3.39 (9.7)	16.1 (14.1)
Milton Keynes General Hospital	MKH	220	109	49.5	96.3	22.9	90.2	44.0	6.4	89.2	69.6	21.9 (17.5)	3.89 (9.5)	25.8 (19.8)
Basingstoke & N.Hants Hospital	NHH	220	242	110.0	94.9	57.6	91.0	71.1	5.6	84.8	98.5	17.7 (12.7)	2.71 (10.8)	20.5 (16.9)
Queen Alexandra Hospital, Portsmouth	QAP	688	732	106.4	99.1	82.8	89.5	92.9	1.3	93.8	100.0	14.8 (10.3)	1.79 (6.2)	16.6 (11.5)
John Radcliffe Hospital, Oxford	RAD	480	526	109.6	86.1	54.1	86.5	76.2	3.8	82.4	98.2	11.6 (9.1)	1.06 (7.4)	12.7 (11.8)
Royal Berkshire Hospital, Reading	RBE	492	449	91.3	95.7	22.9	90.3	75.1	2.0	90.4	100.0	10.8 (10.6)	6.46 (11.5)	17.2 (13.4)
Royal Hampshire County Hospital, Winchester	RHC	239	273	114.2	98.5	33.9	93.6	99.3	2.5	55.2	100.0	16.0 (11.6)	6.80 (16.0)	22.8 (18.8)
Southampton General Hospital	SGH	625	569	91.0	88.5	51.0	85.2	80.1	4.4	88.3	98.0	17.6 (13.2)	0.24 (2.2)	17.9 (13.3)
Stoke Mandeville Hospital, Aylesbury	SMV	380	391	102.9	93.3	8.1	87.8	56.7	0.3	92.5	97.8	15.3 (13.6)	6.75 (18.2)	22.0 (21.8)
Wexham Park Hospital, Slough	WEX	330	338	102.4	90.2	28.4	91.7	49.3	4.9	94.8	95.4	17.2 (17.0)	1.28 (8.2)	18.5 (18.6)
SOUTH CENTRAL		4099	4027	98.2	93.4	46.8	88.6	75.9	2.7	81.9	97.6	14.9 (12.7)	3.0 (10.4)	18.0 (15.7)
ENGLAND		58639	55998	95.5	94.3	51.6	87.3	53.8	3.5	84.9	96.5	15.6 (12.9)	3.6 (11.5)	19.2 (16.6)
OVERALL		64385	61508	95.5	93.9	50.2	85.8	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

## **South East Coast**

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post- acute stay (days)	Mean (SD) total length of stay – acute + post-acute (days)
Conquest Hospital, Hastings	CGH	318	286	89.9	98.5	30.9	90.7	2.1	4.2	93.9	95.4	17.5 (13.7)	0.49 (3.2)	18.0 (13.7)
Eastbourne Hospital	DGE	410	373	91.0	94.4	28.5	96.1	9.1	3.5	86.8	98.8	15.1 (10.3)	2.80 (10.7)	17.9 (15.3)
Darent Valley Hospital, Dartford	DVH	278	336	120.9	95.5	24.1	71.1	48.6	17.7	93.2	100.0	18.3 (17.1)	2.52 (8.1)	20.9 (19.1)
East Surrey Hospital, Redhill	ESU	510	509	99.8	90.8	35.4	94.3	42.9	4.5	94.0	100.0	21.9 (19.8)	0.51 (3.7)	22.4 (20.0)
Frimley Park, Camberley	FRM	330	365	110.6	97.4	35.3	91.5	11.2	0.3	97.2	100.0	16.8 (15.9)	2.49 (9.3)	19.3 (18.2)
Medway Maritime Hospital	MDW	375	339	90.4	97.6	51.6	89.3	20.6	1.6	87.1	99.4	15.1 (12.2)	0.48 (4.4)	15.5 (12.8)
Queen Elizabeth the Queen Mother Hospital, Margate	QEQ	400	372	93.0	93.8	68.8	89.7	77.9	1.2	96.4	100.0	17.5 (12.9)	3.92 (13.5)	21.4 (19.2)
Royal Sussex County Hospital, Brighton	RSC	570	429	75.3	94.5	43.0	94.6	59.4	8.6	88.0	97.8	6.8 (8.1)	12.89 (12.9)	19.7 (14.8)
Royal Surrey County Hospital, Guildford	RSU	357	330	92.4	94.0	29.2	93.5	57.9	4.4	79.1	99.7	21.1 (17.8)	0.55 (6.4)	21.6 (18.6)
St Peter's Hospital, Chertsey	SPH	410	441	107.6	97.7	66.7	95.7	73.9	8.3	94.2	100.0	11.7 (9.5)	10.09 (14.1)	21.8 (15.4)
St Richard's Hospital, Chichester	STR	350	349	99.7	94.5	3.2	92.6	66.1	1.0	89.8	95.7	12.4 (9.2)	0.39 (2.1)	12.8 (9.0)
Maidstone & Tunbridge Wells	TUN	460	351	76.3	91.0	41.1	89.5	16.0	5.0	88.9	62.1	9.3 (7.9)	13.09 (17.5)	22.4 (18.0)
William Harvey Hospital, Ashford	WHH	385	423	109.9	96.2	35.6	87.1	83.9	6.9	84.2	100.0	17.5 (13.1)	1.90 (11.8)	19.4 (18.2)
Worthing + Southlands Hospital	WRG	435	503	115.6	97.1	0.6	95.0	90.9	0.4	87.3	100.0	_	_	19.2 (13.6)
SOUTH EAST COAST		5588	5406	96.7	95.1	35.2	91.2	49.8	4.8	90.0	96.7	15.5 (14.3)	4.4 (11.5)	19.8 (16.8)
ENGLAND		58639	55998	95.5	94.3	51.6	87.3	53.8	3.5	84.9	96.5	15.6 (12.9)	3.6 (11.5)	19.2 (16.6)
OVERALL		64385	61508	95.6	93.9	50.2	85.8	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

### **South West**

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post- acute stay (days)	Mean (SD) total length of stay – acute + post-acute (days)
Royal United Hospital, Bath	BAT	550	489	88.9	93.4	41.5	92.6	94.0	1.1	88.1	100.0	14.9 (11.4)	0.42 (3.3)	15.3 (11.7)
Bristol Royal Infirmary	BRI	400	345	86.3	98.6	12.0	72.2	42.9	6.2	71.5	100.0	19.5 (15.8)	8.30 (17.5)	27.8 (22.1)
Cheltenham General Hospital	CHG	300	299	99.7	96.0	72.4	71.2	86.0	1.5	88.0	100.0	14.4 (10.2)	0.38 (3.2)	14.8 (10.5)
Frenchay Hospital, Bristol	FRY	420	433	103.1	95.8	17.5	93.7	65.5	6.4	84.8	100.0	23.5 (16.0)	0.53 (6.2)	24.1 (16.9)
Gloucester Royal Hospital	GLO	400	418	104.5	98.5	71.8	91.5	55.5	1.9	84.1	98.9	15.2 (9.8)	0.47 (5.6)	15.7 (10.9)
Musgrove Park Hospital, Taunton	MPH	400	368	92.0	92.4	68.8	91.4	63.2	1.7	91.2	98.8	13.6 (9.8)	0.79 (5.5)	14.4 (10.7)
North Devon District Hospital, Barnstaple	NDD	250	260	104.0	92.1	87.8	81.6	5.8	6.1	82.5	100.0	10.4 (7.1)	13.49 (18.8)	23.9 (20.7)
Poole General Hospital	PGH	899	859	95.6	97.0	63.9	86.7	72.4	1.9	92.4	100.0	12.2 (10.1)	0.11 (1.7)	12.3 (10.3)
Derriford Hospital, Plymouth	PLY	481	570	118.5	94.4	49.0	81.2	46.3	0.0	84.4	99.6	12.1 (6.9)	0.42 (3.0)	12.5 (7.3)
The Great Western Hospital, Swindon	PMS	375	376	100.3	97.0	74.7	95.4	65.7	4.5	69.3	99.7	16.4 (13.1)	2.72 (9.8)	19.1 (16.3)
The Royal Cornwall Hospital, Treliske	RCH	555	639	115.1	95.1	81.6	85.3	67.0	1.2	81.8	99.5	12.5 (9.5)	0.76 (4.2)	13.2 (10.2)
Royal Devon & Exeter Hospital, Exeter	RDE	510	522	102.4	99.5	71.3	90.1	65.5	1.2	83.9	99.8	11.6 (7.1)	0.45 (3.1)	12.0 (7.6)
Salisbury District Hospital	SAL	250	278	111.2	94.3	78.4	90.8	97.5	0.8	100.0	100.0	19.0 (17.8)	1.92 (8.0)	20.9 (19.0)
Torbay District General Hospital	TOR	460	436	94.8	95.2	28.1	82.1	74.8	1.2	98.5	98.5	8.8 (4.6)	1.70 (6.6)	10.5 (8.0)
Dorset County Hospital, Dorchester	WDH	255	256	100.4	90.1	92.1	92.5	2.4	1.3	41.1	99.6	10.5 (8.5)	0.00 (0.0)	10.5 (8.5)
Weston General Hospital, Weston-Super-Mare	WGH	400	224	56.0	89.2	61.4	92.2	21.9	9.7	86.3	86.3	16.3 (13.3)	5.51 (13.2)	21.9 (18.2)
Yeovil District Hospital	YEO	250	190	76.0	91.2	45.0	87.2	31.1	7.6	82.2	86.1	15.3 (13.4)	0.63 (2.9)	15.9 (13.5)
SOUTH WEST		7155	6962	97.3	95.3	59.8	86.9	60.9	2.7	84.4	98.8	14.1 (11.4)	1.7 (7.9)	15.8 (13.7)
ENGLAND		58639	55998	95.5	94.3	51.6	87.3	53.8	3.5	84.9	96.5	15.6 (12.9)	3.6 (11.5)	19.2 (16.6)
OVERALL		64385	61508	95.5	93.9	50.2	85.8	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

### Wales

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post- acute stay (days)	Mean (SD) total length of stay – acute + post-acute (days)
Bronglais Hospital, Aberystwyth	BRG	95	92	96.8	86.2	43.5	56.8	51.1	4.8	33.7	1.2	16.4 (10.5)	4.58 (12.8)	21.0 (16.5)
Glan Clwyd Hospital, Rhyl	CLW	365	339	92.9	89.2	53.0	88.7	6.5	5.9	82.7	0.0	13.8 (13.2)	19.99 (25.9)	33.8 (28.6)
Royal Gwent Hospital, Newport	GWE	310	352	113.5	92.5	13.4	71.6	29.2	2.5	87.4	98.2	20.1 (17.9)	14.26 (28.3)	34.3 (34.1)
Gwynedd Ysbyty, Bangor	GWY	280	228	81.4	85.2	50.9	82.4	30.7	1.9	79.5	98.6	13.0 (12.0)	19.22 (20.0)	32.2 (21.3)
Morriston Hospital, Swansea	MOR	450	534	118.7	91.4	32.8	80.4	0.4	2.9	80.5	87.4	19.5 (16.9)	14.92 (25.6)	34.5 (30.2)
Nevill Hall Hospital, Abergavenny	NEV	300	254	84.7	89.2	24.2	81.6	57.9	2.2	80.8	78.2	17.5 (13.6)	15.25 (29.5)	32.7 (32.1)
Prince Charles Hospital, Merthyr Tydfil	PCH	220	131	59.5	86.3	29.1	82.8	17.6	3.6	4.5	0.0	20.5 (16.4)	10.79 (22.7)	31.3 (26.8)
Princess Of Wales Hospital, Bridgend	POW	300	240	80.0	86.0	13.8	75.7	3.3	2.5	49.3	35.2	20.6 (17.3)	6.28 (17.6)	26.9 (23.7)
Royal Glamorgan Hospital, Llantrisant	RGH	275	243	88.4	83.1	18.5	76.1	4.9	0.5	76.1	99.2	14.4 (9.9)	21.14 (36.7)	35.6 (37.6)
University Hospital of Wales, Cardiff	UHW	500	510	102.0	86.9	14.1	73.2	59.1	0.7	85.2	99.3	26.6 (23.7)	12.27 (29.0)	38.9 (35.6)
Maelor Hospital, Wrexham	WRX	235	266	113.2	91.9	71.6	84.2	32.3	1.7	47.3	96.6	14.8 (11.9)	15.96 (28.6)	30.8 (29.4)
West Wales General Hospital, Carmarthen	WWG	300	332	110.7	86.2	58.2	84.6	46.9	1.1	91.4	87.5	18.9 (11.6)	29.04 (32.3)	48.0 (34.5)
Withybush Hospital, Haverford West	WYB	180	144	80.0	86.2	55.6	74.8	6.5	4.1	96.8	86.5	17.7 (11.3)	10.34 (19.0)	28.0 (22.1)
WALES		3810	3665	96.2	88.3	35.0	78.8	26.9	2.4	74.8	74.1	18.6 (16.6)	14.7 (26.9)	33.2 (30.6)
OVERALL		64385	61508	95.5	93.9	50.2	85.8	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

### **West Midlands**

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post- acute stay (days)	Mean (SD) total length of stay – acute + post-acute (days)
Queens Hospital, Burton upon Trent	BRT	278	293	105.4	92.5	60.7	90.8	10.4	2.2	98.5	95.1	19.3 (16.7)	0.00 (0.0)	19.3 (16.7)
Birmingham Heartlands	EBH	480	482	100.4	95.7	7.5	83.0	85.0	6.5	35.4	91.7	19.6 (16.0)	6.13 (14.0)	25.7 (18.7)
Good Hope Hospital, Birmingham	GHS	380	365	96.1	96.1	15.7	77.8	89.3	4.9	85.5	94.8	19.0 (14.6)	2.01 (9.0)	21.0 (16.5)
County Hospital, Hereford	HCH	282	285	101.1	92.4	57.9	91.0	23.2	1.7	83.2	96.4	11.1 (7.4)	0.12 (1.9)	11.2 (7.6)
New Cross Hospital, Wolverhampton	NCR	336	367	109.2	95.4	29.9	89.6	71.0	9.9	87.0	93.3	16.5 (16.0)	1.63 (7.7)	18.2 (17.4)
George Eliot Hospital, Nuneaton	NUN	240	252	105.0	98.7	33.2	80.9	57.1	15.2	67.9	100.0	20.0 (13.8)	1.80 (7.2)	21.8 (14.7)
Queen Elizabeth Hospital, Birmingham	QEB	375	414	110.4	90.2	50.7	88.1	54.6	13.3	93.4	100.0	17.3 (17.0)	8.08 (16.0)	25.4 (20.2)
Alexandra Hospital, Redditch	RED	250	250	100.0	94.2	44.7	79.1	99.2	0.9	96.8	100.0	14.3 (9.5)	1.93 (9.8)	16.2 (13.6)
Royal Shrewsbury Hospital	RSS	350	325	92.9	89.4	39.6	58.8	42.6	1.3	79.2	88.1	17.1 (16.4)	4.57 (10.3)	21.7 (19.7)
Russells Hall Hospital, Dudley	RUS	500	485	97.0	98.8	38.9	96.1	46.8	5.0	89.3	99.8	18.2 (15.1)	0.11 (2.2)	18.3 (15.2)
Sandwell General Hospital	SAN	360	337	93.6	93.2	60.3	87.4	71.2	6.7	83.6	98.0	18.0 (15.9)	8.23 (19.7)	26.2 (24.8)
Stafford Hospital	SDG	230	230	100.0	96.1	64.3	93.4	60.4	5.7	80.8	99.0	17.3 (14.5)	4.31 (12.5)	21.6 (18.3)
University Hospital of North Staffordshire, Stoke-on Trent	STO	550	595	108.2	93.6	65.2	86.7	36.6	3.9	67.3	98.4	9.3 (7.2)	0.08 (1.1)	9.3 (7.2)
Princess Royal Hospital, Telford	TLF	225	141	62.7	86.9	58.6	75.0	3.6	0.0	74.1	78.2	9.5 (10.5)	10.12 (15.5)	19.6 (17.9)
University Hospital Coventry	UHC	518	486	93.8	98.1	43.5	92.3	3.7	0.9	95.5	100.0	15.4 (12.2)	8.31 (15.2)	23.7 (18.8)
Warwick Hospital	WAR	365	295	80.8	96.5	58.7	91.2	90.8	2.5	97.4	100.0	18.6 (17.2)	6.96 (16.8)	25.6 (24.3)
Manor Hospital, Walsall	WMH	365	311	85.2	94.1	23.2	85.5	30.9	2.2	96.0	100.0	12.1 (9.1)	5.93 (11.8)	18.0 (14.6)
Worcestershire Royal Hospital, Worcester	WRC	425	412	96.9	91.9	61.6	82.8	45.9	0.5	73.9	100.0	10.3 (8.5)	6.08 (13.2)	16.3 (15.7)
WEST MIDLANDS		6509	6325	97.2	94.4	44.3	85.8	51.4	4.7	81.2	96.9	15.6 (14.0)	4.0 (11.9)	19.6 (17.8)
ENGLAND		58639	55998	95.5	94.3	51.6	87.3	53.8	3.5	84.9	96.5	15.6 (12.9)	3.6 (11.5)	19.2 (16.6)
OVERALL		64385	61508	95.5	93.9	50.2	85.8	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

### **Yorkshire and the Humber**

Hospital	Hospital code	Estimated number of hip fractures (Facilities Audit)	Number of cases submitted	% case ascertainment	% Data completeness of reporting fields	% Admitted to orthopaedic care within 4hrs (BB Std. 1)	% Surgery within 48hrs (BB Std 2)	% Pre-operative assessment by geriatrician (BB Std 3)	% Patients developing pressure ulcers (BB Std 4)	% Bone health medication assessment (BB Std 5)	% Falls assessment (BB Std 6)	Mean (SD) length of acute stay (days)	Mean (SD) length of post-acute stay (days)	Mean (SD) total length of stay – acute + postacute (days)
Airedale General Hospital	AIR	270	275	101.9	94.2	51.2	89.5	54.5	2.8	93.3	100.0	17.6 (13.6)	0.81 (2.9)	18.4 (13.4)
Barnsley Hospital	BAR	590	250	42.4	93.9	56.0	90.1	32.4	4.0	94.3	100.0	16.8 (9.9)	0.37 (5.7)	17.1 (11.0)
Bradford Royal Infirmary	BRD	365	350	95.9	95.3	52.7	79.5	62.9	0.8	76.8	86.9	14.9 (9.5)	0.04 (0.6)	15.0 (9.5)
Bassetlaw Hospital	BSL	150	168	112.0	94.8	48.2	84.6	28.6	0.7	95.9	100.0	15.2 (10.3)	0.64 (4.5)	15.9 (10.7)
Doncaster Royal Infirmary	DID	350	371	106.0	94.0	46.9	84.3	44.2	0.6	94.8	100.0	13.8 (9.0)	5.71 (16.0)	19.5 (18.0)
Diana Princess of Wales Hospital, Grimsby	GGH	255	248	97.3	93.0	62.2	73.9	45.5	8.8	87.9	96.3	14.4 (9.6)	0.22 (2.2)	14.6 (9.9)
Harrogate District Hospital	HAR	260	286	110.0	94.3	72.7	90.4	47.9	3.7	62.4	97.4	16.3 (11.0)	3.91 (10.8)	20.2 (15.3)
Hull Royal Infirmary	HRI	500	538	107.6	94.7	65.4	81.0	54.4	0.4	85.9	99.8	16.5 (10.3)	0.90 (6.2)	17.4 (11.5)
Huddersfield Royal Infirmary	HUD	503	445	88.5	94.3	63.8	85.7	21.0	1.1	81.2	0.3	18.1 (15.3)	6.01 (17.6)	24.1 (23.2)
Leeds General Infirmary	LGI	700	639	91.3	89.5	49.8	74.5	41.3	5.1	91.4	93.5	19.5 (14.2)	1.86 (8.5)	21.4 (16.1)
Northern General Hospital, Sheffield	NGS	620	588	94.8	92.6	69.6	93.9	83.0	6.2	81.6	98.7	20.1 (16.5)	2.19 (8.0)	22.3 (16.5)
Pinderfields General Hospital, Wakefield	PIN	560	530	94.6	98.5	25.7	80.6	60.0	3.5	96.2	100.0	17.7 (11.9)	1.09 (5.6)	18.8 (12.9)
Rotherham District General Hospital	ROT	300	275	91.7	97.6	80.9	86.5	98.5	1.7	92.1	100.0	19.4 (15.4)	1.84 (7.7)	21.3 (16.8)
Scarborough General Hospital	SCA	267	294	110.1	93.1	52.4	91.8	57.6	3.8	85.9	98.2	10.0 (7.1)	6.12 (12.3)	16.2 (14.4)
Scunthorpe General Hospital	SCU	224	242	108.0	95.6	71.7	71.4	68.2	0.9	93.8	100.0	10.5 (6.7)	0.84 (4.2)	11.3 (7.6)
York Hospital	YDH	400	368	92.0	98.1	83.2	85.6	59.0	0.6	73.4	99.7	15.9 (10.2)	1.84 (8.9)	17.7 (13.3)
YORKS & HUMBER		6314	5867	92.9	94.4	58.5	83.8	54.4	2.7	86.4	91.0	16.6 (12.4)	2.2 (9.4)	18.8 (15.1)
ENGLAND		58639	55998	95.5	94.3	51.6	87.3	53.8	3.5	84.9	96.5	15.6 (12.9)	3.6 (11.5)	19.2 (16.6)
OVERALL		64385	61508	95.5	93.9	50.2	85.9	52.9	3.5	83.8	94.5	15.7 (13.0)	4.3 (13.1)	20.0 (17.8)

# Glossary

Term	Definitions
Abbreviated mental test score	A rapid assessment of elderly patients to assess cognitive dysfunction.
Arthroplasty	Any replacement of the upper femur including unipolar hemi-arthroplasties, bipolar hemi-arthroplasties and total hip replacements.
ASA grades	<ul> <li>American Society of Anesthesiologists<sup>11</sup> (ASA) physical status classification:</li> <li>1 A normal healthy patient</li> <li>2 A patient with a mild systemic disease</li> <li>3 A patient with a severe systemic disease that limits activity, but is not incapacitating</li> <li>4 A patient with an incapacitating systemic disease that is a constant threat to life</li> <li>5 A moribund patient not expected to survive 24 hours with or without operation</li> <li>This grading does not take into account acute illness, hence a patient can be ASA 1 and 'unfit'.</li> </ul>
Bone protection therapy	1. Bisphosphonates Etidronate Alendronate Risedronate Ibandronate Zoledronate Pamidronate  2. Denosumab  3. HRT and SERMS HRT (various) Tibolone Raloxifene  4. Parathyroid hormone PTH 1-34 PTH 1-84  5. Strontium Strontium ranelate  6. Calcium and vitamin D Calcitriol Calcium and vitamin D — various Alpha-calcidol (or one alpha)  7. Calcitonin

Term	Definitions
Case ascertainment	The number of cases submitted by the participating hospital divided by the number of cases predicted, expressed as a percentage.
Cementing of arthroplasties	Polymethyl methacrylate is a plastic that may be used to hold arthroplasties in place. It is introduced into the reamed bone before prostheses are inserted. The 'cement' sets in a few minutes.
Falls prevention assessment	A systematic assessment by a suitably trained person e.g. Geriatrician or a specialist trained nurse which must cover the following domains: Falls history (noting previous falls), cause of index fall (including medication review), risk factors for falling and injury (including fracture) and from this information formulate and document a plan of action to prevent further falls.
Foundation Doctor	A newly qualified junior doctor undertaking two years of supervised clinical practice prior to embarking on specialist training.
Fracture Liaison Nurse/service	A nurse whose primary purpose is to ensure that both inpatients and outpatients with low impact fractures are screened for falls and osteoporosis.
Multidisciplinary rehabilitation team	A group of people of different professions (and including as a minimum a physiotherapist, occupational therapist, nurse and doctor) with job plan responsibilities for the assessment and treatment of hip fracture patients, and who convene (including face to face or virtual ward round) regularly (and at least weekly) to discuss patient treatment and care, and plan shared clinical care goals.
Pressure ulcer <sup>13</sup>	A pressure ulcer is an area of localised damage to the skin and underlying tissue caused by pressure, shear or friction forces, or a combination of these.
Sprint Audit	Short term audit of specific fields/areas of practice.
ST3 level	A doctor in the third year of specialist training.
Superspell	Overall NHS length of stay: including acute care and any post-acute care/ rehabilitation care prior to return home; or to admission to care home care; to other non-NHS placement; or death.

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# Appendix A Using audit to improve care

### Improving care and achieving Best Practice Tariff: Airedale NHS Foundation Trust

In May of 2011 Airedale NHS Foundation Trust started an orthogeriatrics service. The specific aims of the service were to achieve Best Practice for patients with fracture neck of femurs based on the Blue Book indicators. The service started from a zero starting point, where no patients were submitted by Airedale NHS Foundation Trust to the National Hip Fracture Database.

The overall aim is to provide optimal medical, surgical and anaesthetic care to patients who have been part of the service.

The service is based on a small team, all located within the same site. This service has been implemented and grown considerably within the last 24 months, based on a strong multidisciplinary team ethic and close working between Geriatrics, Orthopaedics, Anaesthetics and Emergency Department. The Nurse specialist has been key to coordinating the links between the specialities.

The key to the success has been a neck of fracture trauma board and a neck of fracture spreadsheet being kept to highlight all the key indicators to be achieved.

Other initiatives have included close collaboration with the Emergency Department to ensure femoral nerve blocks are done to reduce opiate anaesthesia, nursing care pathways assist in the management of the patient and a neck of femur patient and relative information booklet.

This service has grown to achieve 70%, Best Practice in the first year .The subsequent year 2012–13 has shown a further improvement in the service to 79%. The length of stay in hospital for these patients has fallen significantly. In recognition of these achievements, the service was shortlisted for a Healthcare Innovations award in 2012.

#### Improving care and reducing time to theatre: North Manchester General Hospital

North Manchester General Hospital now accepts orthopaedic trauma for both North Manchester and Bury following a reconfiguration of services in March 2012. At this time there was Orthogeriatric cover for hip fracture patients for only 3 half days per week.

In order to improve the service, a Multidisciplinary Service Development Group (MSDG) was set up and we have now gained a full time Orthogeriatrics Consultant in February of this year and a (currently locum) Orthogeriatrics Speciality Doctor. The MSDG meets once a month to identify problems and provide solutions.

Our figures have improved dramatically. In June 2013 average time to theatre was 31 hours and average length of stay was 7 days compared to March 2012 when average time to theatre was 57 hours and length of stay 20 days.

After attending the Northwest Hip Fracture Meeting in March 2013 the MSDG uses information from this day and continues to work on improving the service for our patients. Achievement of the Best Practice Tariff has improved from 10% in quarter 4 of 2012–13 (when there was no consistent OG cover) to 33% in quarter 1 of 2013–14.

### Using audit data to improve practice: Calderdale and Huddersfield NHS Foundation Trust

In February 2010, Calderdale and Huddersfield NHS Foundation Trust (CHFT) appointed a dedicated Trauma Co-ordinator as a result of the Rapid Improvement Programme for Orthopaedics in 2008. This was increased to 1.6 whole time equivalent (WTE) in September 2011. Prior to February 2010, NHFD data entry was sporadic, as was data completeness. This was due to data collection not being the responsibility of a specific member of staff.

As is nationally expected, the number of fractured neck of femur patients has increased from 415 in 2009–10 to 477 in 2012–13. We currently have an average time to theatre of 33 hours and length of stay averages 22.7 days.

In March 2013, CHFT was highlighted as being an outlier of 30 day mortality at 13.1% in 2011–12. Once aware of this situation, we sought an external opinion for advice on where we could improve the care we provide. As a result, a multidisciplinary review lead by the British Orthopaedic Association was instigated. They visited in May 2013, and after a review of data and documentation, key staff were interviewed. The following day, feedback was provided.

As a Trust, we felt both inspired and invigorated by their positive, supportive outlook. Current good practice in the ward environment was complimented upon. They also acknowledged that changes had already been made and suggested other areas worth considering for improvement.

Whilst we await formal feedback, our practices continue to evolve, and we look forward to reporting significant improvements in the near future.

### Improving care: University Hospital Lewisham

Following significant delays in times to theatre in 2010 and early 2011, the pre-operative assessment of the patients was changed to include the outreach consultant anaesthetist as well as consultant orthogeriatrician, to ensure optimisation to theatre and to plan post-operative care. In addition integration with community providers has allowed in-reach of teams to allow earlier supported discharge.

In 2011/12 an average of 62% of patients were in theatre within 36 hours. Delays were due to lack of theatre space and medically unfit. In 2012–13 75% of patients to theatre within 36 hours.

63% of patients are discharged straight back to their own home compared to 42% in 2010–11, with an average length of stay reduced 5 days to 18.4 days in 2011–12 compared to 24.1 days in 2010–11 and readmissions have almost halved (16% to 8.8%).

### Improving care and reducing length of stay: James Cook Hospital

In September 2012 a generic multi-speciality trauma admissions unit underwent a transition to a dedicated hip fracture ward. Communication in discharge planning has been improved through single site physiotherapy and occupational therapy teams, a ward-based social worker, daily MDT meetings with input from an Orthogeriatrician.

The morning trauma meeting has moved, and the hip fracture unit is visited first on the daily trauma round – to enable senior decision makers to integrate with ward staff and the anaesthetic team in coordination of care.

A change of approach across many domains has led to:

- average acute LOS decreasing by 6 days in the first six months from 20 days to 14 days
- 40% of patients return directly home from the acute ward, but this is achieved earlier 11.5 days compared to 16 day previously
- a further 35% of patients return to their original residence after rehabilitation in one of the community hospitals
- risk of pressure sores and inpatient falls both appear to have been reduced by single site care.

### Improving care and reducing pressure ulcer incidence: Royal Liverpool University Hospital

The Royal Liverpool University Hospital first joined the NHFD back in 2008. In 2010 NHFD report we found 7% patients developing pressure ulcers (national 3.9%). A multidisciplinary team initiative was set up resulting in 0.9% patients developing pressure ulcers by 2012.

Our project 'Sustaining the reduction of pressure ulcers in patients with hip fracture' was recently awarded the 'Eva Higgins Prize' at the British Geriatrics Society Scientific meeting.

The NHFD has provided us with a great platform for improvements; we present our data monthly to our orthopaedic trauma directorate and aim to constantly improve the care we deliver with monthly action plans.

Not only have we seen year by year improvements in best practice in the form of Blue Book Standards/ Best Practice Tariff but also multiple other areas for example dementia care, continence care and improvements in nutrition for patients with hip fractures.

This has all been achieved through extensive collaborative work.

### Improving care and reducing time to theatre: Royal Devon and Exeter Hospital

In the last quarter of 2012, 75% of patients from the Exeter Hip Fracture Service at the Royal Devon and Exeter Hospital had surgery within 36 hours of admission. 25% of patients did not reach theatre within this time, either due to lack of theatre time (12% of the total) or due to fitness for surgery (12%), which included patients previously on warfarin awaiting surgery.

Since January 2013, an early start initiative for the operative list was implemented in our trauma theatre, optimizing its utilization from 8:00 every morning and prioritizing hip fracture patients as first cases. These procedures are performed or supervised by an experienced surgeon whilst the post-take ward round and meeting normally take place.

In February 2013 a formal audit of compliance to our Trust guidelines for reversal of warfarinisation was also carried out for this group of patients, aiming towards prompt action as soon as a hip fracture is diagnosed, identifying correctable delays in the process and leading to shorter reversal periods of anticoagulation.

These implementations, amongst others, have contributed towards an improvement in the percentage of patients reaching theatres within 36 hours. The figure for the month of April improved to 93%.

### Improving care: Pilgrim Hospital, Boston

The last 12 months have seen major improvements in outcomes and patient experience. An Orthopaedics Associate Specialist with a real commitment has taken on a Lead Clinician role as a champion for patients with hip fracture. Three new morning trauma lists to supplement the previous five afternoon week-day lists, and extended week-end trauma lists have played an important role in minimising delays.

Patients are admitted by on-call teams prompt, receive prompt pre-op. optimisation by Trauma Coordinators, Anaesthetists and the Orthopaedic Specialist, are listed first on dedicated trauma lists with Consultant Anaesthetists and Senior Surgeons operating or supervising trainees, and transfer to the care of the multidisciplinary Hip Fracture Service team post-op.

With the support of the Orthogeriatrician the Orthopaedic Specialist carries out robust ward rounds every day, and monitors the progress of post-op. patients.

As a consequence Pilgrim hospital is achieving BPT for most hip fracture patients, and has seen:

- a one day reduction in time-to-theatre from 42.5 hours last year 18.4 hours recently
- a four day reduction in the length of stay
- a halving of 30 day mortality from 15% to 7.4%

#### Improving care:

#### **East Lancashire Hospitals NHS Trust**

East Lancashire Hospitals NHS Trust has contributed to the NHFD with a high case ascertainment for past 3 years. Over this time period, there has been the introduction of an integrated care pathway, fracture neck femur care bundle, a fast tracking system, and a dedicated hip fracture unit in a 46 bed trauma ward

2 consultant orthogeriatricians provide perioperative care through daily ward rounds (Mon-Fri), coordinate rehabilitation and discharge through weekly multidisciplinary case conferences, undertake fall and bone health clinics; and lead the fracture liaison service.

The recent introduction of a clinical group comprising orthopaedic surgeons and orthogeriatricians (with anaesthetic involvement as required) undertaking joint primary and secondary mortality reviews allows us to monitor our mortality and morbidity. In addition this group helps share good practice and lessons to be learnt.

Over the last three years we have consistently improved our Best Practice Tariff standards from 15.62% in 2010–11 to 65.33% in 2011–12 and 73% in 2012–13. There has been consistent improvement in five out of six standards year on year for last three years. The platform has identified the main areas for improvement including length of stay and unexpected variation in mortality which may require further detailed investigation.

In line with current Department of Health directives, we have improved the ward environment and care of patients suffering from delirium and dementia; with a designated bay and increased nursing support for these particularly vulnerable patients.

### **Improving Care: The Royal Hampshire County Hospital**

The Royal Hampshire County Hospital (Hampshire Hospitals Foundation Trust) started implementation of an Enhanced Recovery (ER) Pathway for patients with a hip fracture in February 2012.

The #NOF Enhanced Recovery pathway utilises the principles of ER, but key details of the pathway that support the care and management of patients presenting with a hip fracture are:

- GP's summary notes obtained on admission
- minimum fasting pre-operatively with administration of pre-op drinks (fast from food for 6 hours, and clear fluids for 2 hours) Oral intake encouraged as soon as possible post operatively so avoiding iv fluids where possible
- Hb results are obtained within an hour on day 1 to facilitate mobility.
- joint therapy working enhancing rehabilitation.

Using these principles for care delivery there has been a reduction in acute length of stay by a day.

Time from admission to surgery has reduced by 6.39 hours to 19.95 hours, and 72% of patients return to their preadmission residence as against 55% at the start of this work.

### Improving Care: Worthing Hospital

Worthing Hospital treats between 400 and 500 hip fractures annually from an elderly population with high levels of comorbidity. Data collated by The National Hip Fracture Database (NHFD) and Dr. Foster in early 2011 identified a higher than expected hospital standardised mortality ratio (HSMR) after hip fracture.

As a result, the hip fracture pathway was redesigned according to practice recommendations from the National Institute for Health and Clinical Excellence (NICE) and the British Orthopaedic Association / British Geriatrics Society 'Blue book'.

The effect of practice change on outcomes and quality indicators such as mortality and length of stay (LOS) after hip fracture was analysed.

Changes to the patient pathway included

- admitted under geriatrician to ward specialising in perioperative hip fracture care
- pre operative Orthogeriatrician review
- prioritised for all day trauma list
- on-site rehabilitation

There was a significant drop in mean LOS (from 28 to 21 days) and mean time to surgery (42 to 28 hours) as well as time to orthogeriatric assessment. There was no significant difference in crude mortality between groups but the HSMR dropped to the expected level. The post intervention group had significantly higher numbers of patients over the age of 90 and with ASA  $\geq$ 3.

Implementing an effective orthogeriatric pathway at our hospital has resulted in significant improvements in clinical outcomes and quality indicators despite an increase in the complexity of an already challenging case mix.

Benchmarking data from national databases such as the NHFD and Dr. Foster may be used to facilitate improvement in service delivery. However, careful examination of local data is still important to correct discrepancies, adjust for local case mix and account for the differences in methodology used by these organisations.

# Appendix B – Facilities Audit tables

Hospital Code	Trauma catchment population	No. of hip fractures treated/annum	Trauma Service Description	Hours of Designated trauma/week	No. of WTE Orthopaedic Consultants	No. of WTE Orthopaedic middle grades	Orthogeriatric consultant hours/week	Orthogeriatric middle grades hours/week	Orthogeriatric ward rounds per week	No. of WTE fragility fracture nurses	No. of WTE fracture liaison nurses	Falls clinic	DXA on-site facility	Data collected by	Data entered by	Where rehabilitation is done
ADD	350000	480	Both	60	14.5	10	32	0	5	1	1	Con	Axial	Doctors	Admin	Ward
AEI	310000	330	DGH	7	8	8	20	0	5	0	0	Con	Axial	Nurses	Nurses	Ward
AIR	220000	270	DGH	20	7	6	12	0	4	0	1	Con	Axial	Doctors	Audit	Ward
ALT	402303	387	DGH	48	8	2	0	0	0	0	1	None	Axial	Nurses	Admin	GORU
ASH	250000	350	DGH	44	9	9	8	40	2	1	0	Con	None	Nurses	Nurses	GORU
BAR	224600	590	DGH	31.5	8	8	13	1	3	3	0	Con	Axial	Nurses	Audit	GORU
BAS	320000	388	DGH	41	12	11	12	45	5	1.2	1.4	Con	Axial	Nurses	Nurses	Ward
BAT	500000	550	DGH	15	17	13	40	37.5	5	1	1	Con	Peri	Nurses	Admin	Ward
BED	270000	220	DGH	20	7	7	8	0	5	0	0	Nurse	Axial	Care Asst	Care Asst	Ward
BFH	400000	468	DGH	46.5	12	10	10	0	2	1	2	None	Axial	Nurses	Nurses	Ward
BLA	525000	400	DGH	19	16	10	35	4	5	4	0	Con	Axial	Care Asst	Care Asst	Ward
BNT	500000	308	DGH	32	7.5	8	16	40	2	0	0	Con	Axial	Nurses	Nurses	Ward
BOL	350000	380	DGH	40	10.5	7	40	0	5	0	0	Con	None	Nurses	Nurses	Ward
BRD	480000	365	DGH	36	13	9	32	0	5	0	0	None	Axial	Nurses	Nurses	Ward
BRG	95000	95	DGH	0	4	4	33	0	5	1	1	Con	Axial	Nurses	Nurses	Ward
BRI	300000	400	Both	29	15	12	10	0	2	1	0.74	Con	Axial	Nurses	Nurses	Ward
BRO	307000	380	DGH	48	8	14	8	32	4	1	0	Con	Axial	Nurses	Admin	Ward
BRT	300000	278	DGH	44	9	8	15	15	5	0	0	Con	Peri	Audit	Audit	Ward
BSL	150000	150	DGH	28	6	6	5	0	5	1	0	Con	Axial	Nurses	Admin	Ward
CCH	350000	30	Both	4	7.34	7	8	8	5	0	0	Con	Axial	Audit	Audit	Ward
CGH	200000	318	DGH	24	10	6	4	0	2	0	0	Con	None	Admin	Admin	Ward
CHE	360000	390	DGH	31.5	9.5	10.5	14	0	5	1	0	None	Axial	Admin	Admin	Ward
CHG	225000	300	DGH	28	10.5	11	8	30	4	2	1.1	Con	Axial	Nurses	Nurses	Ward
CHS	250000	219	DGH	17.5	7.5	9	12	32	2	0	0	Con	None	Nurses	Nurses	Ward
CLW	240000	365	DGH	56	7	8	0	0	0	0.3	0	None	Peri	Nurses	Nurses	Ward
CMI	200000	250	DGH	29.5	8	8	10	0	4	1	0	Nurse	None	Nurses	Audit	Ward
COC	250000	320	DGH	40	8	9	9	0	5	2	1	Con	None	Nurses	Nurses	Ward

Hospital Code	Trauma catchment population	No. of hip fractures treated/annum	Trauma Service Description	Hours of Designated trauma/week	No. of WTE Orthopaedic Consultants	No. of WTE Orthopaedic middle grades	Orthogeriatric consultant hours/week	Orthogeriatric middle grades hours/week	Orthogeriatric ward rounds per week	No. of WTE fragility fracture nurses	No. of WTE fracture liaison nurses	Falls clinic	DXA on-site facility	Data collected by	Data entered by	Where rehabilitation is done
COL	370000	550	DGH	52	12	10	8	2	5	0	0	Con	Axial	Nurses	Nurses	Ward
CRG	250000	250	DGH	45	6	6	20	30	5	0	1	Con	None	Nurses	Admin	GORU
DAR	250000	327	DGH	33.5	9	8	15	0	5	2	1	Con	Axial	Audit	Audit	Ward
DER	500000	570	DGH	84	20	20	12	0	5	0	1	Con	Axial	Nurses	Admin	Ward
DGE	360000	410	DGH	42	8	7	20	0	5	1	0	Con	None	Nurses	Nurses	Ward
DID	300000	350	DGH	56	12	15	16	8	5	6	0	Con	Axial	Nurses	Admin	Ward
DRY	250000	320	DGH	59	9	10	15	0	5	1	0	Con	Axial	Nurses	Admin	GORU
DVH	290000	278	DGH	20	5.5	8	30	1	5	1	0	None	Peri	Admin	Admin	Ward
EAL	300000	150	DGH	20	5	8	12	2	2	1	1	Con	None	Nurses	Nurses	GORU
EBH	750000	480	DGH	49	11	12	28	12	6	0	0	Con	None	Doctors	Admin	GORU
ENH	500000	480	DGH	28	10	14	12	40	5	0	1	Con	Axial	Nurses	Admin	Ward
ESU	500000	510	DGH	55	8	9	34	40	5	1	0.27	Con	Axial	Nurses	Nurses	Ward
FAZ	500000	400	DGH	56	13	8	8	20	5	0	0	Con	Axial	Doctors	Admin	GORU
FGH	300000	120	DGH	17.5	5	5	6	0	3	0	0	Con	None	Audit	Audit	Ward
FRM	450000	330	DGH	76	22	18	8	40	2	1	0	Con	Axial	Nurses	Care Asst	Ward
FRY	500000	420	Both	60	14	12	38	0	7.5	1.4	1	Con	Axial	Nurses	Nurses	Ward
GEO	260000	170	Both	68	16	0	8	0	3	0	0	Con	Axial	Nurses	Nurses	GORU
GGH	290000	255	DGH	24	6	7	9	9	3	1	1	Con	Axial	Nurses	Admin	Ward
GHS	400000	380	DGH	24	9	11	8	0	2	0	0	Con	Axial	Doctors	Admin	Ward
GLO	320000	400	DGH	52.5	16	9	16	16	5	1	1	Con	Axial	Nurses	Nurses	Ward
GRA	130000	120	DGH	4	5	5	0	0	0	0	0	None	None	Doctors	Admin	Ward
GWE	552000	310	DGH	56	15	14	7.5	0	2	4	0	Con	Axial	Nurses	Nurses	GORU
GWH	486000	269	DGH	48	9	10	5	4	5	0	2	Con	Axial	Nurses	Nurses	Ward
GWY	220000	280	DGH	35	11	10	16	0	4	3.25	3.25	Con	Axial	Doctors	Admin	GORU
HAR	200000	260	DGH	20	8	8	30	0	4	0.5	0	Con	Axial	Nurses	Admin	Ward
HCH	230000	282	DGH	30	9	9	4	10	5	0	0.8	Con	Axial	Nurses	Nurses	GORU
HIL	350000	230	DGH	56	6	9	16	14	3	0	0	None	None	Doctors	Audit	Ward

Hospital Code	Trauma catchment population	No. of hip fractures treated/annum	Trauma Service Description	Hours of Designated trauma/week	No. of WTE Orthopaedic Consultants	No. of WTE Orthopaedic middle grades	Orthogeriatric consultant hours/week	Orthogeriatric middle grades hours/week	Orthogeriatric ward rounds per week	No. of WTE fragility fracture nurses	No. of WTE fracture liaison nurses	Falls clinic	DXA on-site facility	Data collected by	Data entered by	Where rehabilitation is done
HIN	250000	200	DGH	17.5	6	3	28	9	4	0	0	Con	None	Doctors	Nurses	Ward
НОМ	115000	80	DGH	0	5	5	15	0	2	1	0	Con	None	Nurses	Nurses	Ward
HOR	200000	175	DGH	0	5	6	25	40	4	0	0.2	Con	None	Admin	Admin	Ward
HRI	650000	500	DGH	77	22	15	20	40	10	1	4	Con	Axial	Nurses	Audit	Ward
HUD	452848	503	DGH	52.5	18	13.4	16	8	5	0	0	Nurse	None	Nurses	Nurses	Ward
IOW	140000	250	Tertiary	17.5	5	5	0	10	5	1	1	Con	Axial	Nurses	Nurses	GORU
IPS	350000	438	DGH	35	14	9	20	0	2	1	1	Con	Axial	Nurses	Nurses	Ward
JPH	250000	400	DGH	22.5	6	7	9	0	3	0	0	None	None	Nurses	Nurses	Ward
KCH	200000	120	Tertiary	36	13	18	7	30	5	1	1	Con	Axial	Nurses	Nurses	Ward
KGH	280000	300	DGH	32	8	9	10	0	4	5	1	Con	Axial	Audit	Audit	Ward
KMH	400000	360	DGH	38.5	13	10	0	0	4	2	0	Con	Axial	Nurses	Nurses	Ward
KTH	325000	350	DGH	48	9	9	40	0	5	0	0	Con	Axial	Nurses	Nurses	Ward
LDH	330000	300	DGH	52	11	11	20	0	5	0	0	Con	Axial	Nurses	Nurses	Ward
LER	1000000	900	Tertiary	96	20	10	28	0	5	0	0	Con	Axial	Nurses	Nurses	Ward
LEW	450000	170	DGH	24	8	8	8	2	7	0	0.5	Con	Axial	Doctors	Audit	Ward
LGH	280000	280	DGH	32	8.5	8	7	0	3	0	0	None	Axial	Nurses	Nurses	Ward
LGI	751000	700	Both	136	16	27	32	0	8	1	0	Con	Axial	Nurses	Audit	Ward
LIN	336000	390	DGH	75	13	11	37.5	0	5	0	0	None	Peri	Nurses	Nurses	Ward
LON	250000	125	Both	66	16	20	19	0	4	0	0	Con	Axial	Nurses	Admin	Ward
MAC	220000	250	DGH	28	7	6	16	12	5	0	0	None	Axial	Audit	Audit	Ward
MAY	380000	300	DGH	35	8	9	20	10	4	0	0	Con	Axial	Doctors	Doctors	Ward
MDW	377250	375	DGH	66	11	10	20	0	2	1	4	Con	Axial	Nurses	Admin	Ward
MKH	246000	220	DGH	32	7	10	0	20	5	1	0	Nurse	Peri	Nurses	Nurses	Ward
MOR	400000	450	Both	60	19	10	15	18.75	4	8	0	None	Axial	Nurses	Audit	GORU
MPH	360000	400	DGH	52	9	10	12	20	2	0	0	Con	Axial	Nurses	Nurses	GORU
MRI	251665	190	Both	49	10.1	9	17	4	4	1.8	0	Con	Axial	Nurses	Nurses	Ward
NCR	249500	336	DGH	55.5	15	10	0	11	1	1.3	1.3	Con	Axial	Nurses	Nurses	Ward

Hospital Code	Trauma catchment population	No. of hip fractures treated/annum	Trauma Service Description	Hours of Designated trauma/week	No. of WTE Orthopaedic Consultants	No. of WTE Orthopaedic middle grades	Orthogeriatric consultant hours/week	Orthogeriatric middle grades hours/week	Orthogeriatric ward rounds per week	No. of WTE fragility fracture nurses	No. of WTE fracture liaison nurses	Falls clinic	DXA on-site facility	Data collected by	Data entered by	Where rehabilitation is done
NDD	160000	250	DGH	20	7	7	10	16	5	0	0	None	Axial	Nurses	Nurses	GORU
NEV	200000	300	DGH	29	8	8	3	37.5	1	0	4	Con	Axial	Nurses	Nurses	GORU
NGS	500000	620	Both	66.5	25	12	72	40	10	0	0	Con	Axial	Nurses	Admin	Ward
NHH	280000	220	DGH	32	10	10	8	24	4	0	0	Con	Peri	Nurses	Nurses	Ward
NMG	350000	300	DGH	49	12	11	8	0	2	0	0	None	None	Nurses	Nurses	Ward
NMH	250000	130	DGH	20	5	5	10	10	5	0	0	Con	None	Doctors	Doctors	Ward
NOB	85000	81	DGH	14	4	4	0	0	0	0	0	None	Axial	Nurses	Audit	GORU
NOR	825000	800	DGH	84	16	9	20	28	2	0.6	0	Con	Axial	Audit	Audit	Ward
NPH	495000	275	DGH	44	8.8	8	40	40	5	0	0	Con	Axial	Admin	Admin	Ward
NTG	400000	380	DGH	48.5	15.03	14	20	0.7	5	0.6	0.6	Con	Axial	Nurses	Admin	Ward
NTH	380000	376	DGH	50	11	11	17	0	5	0	0	Con	Axial	Audit	Audit	Ward
NTY	250000	330	DGH	40	9	10	4	32	1	1	0	Con	Axial	Nurses	Nurses	Ward
NUH	360000	375	Tertiary	45	4	4	4	66	5	0.7	1	None	Axial	Nurses	Admin	GORU
NUN	300000	240	DGH	28	6	6	12	12	3.5	0	0	Con	Axial	Audit	Audit	Ward
NWG	297000	100	DGH	25	6	6	6	0	2	0	0	Con	None	Doctors	Admin	Ward
ОНМ	429700	325	DGH	42	11	11	25	40	5	0	0	Con	Axial	Nurses	Audit	GORU
OLD	700000	500	Both	104	13.75	12	20	20	10	1	1	Nurse	Axial	Nurses	Nurses	
PAH	299900	350	DGH	32	11	11	30	32	5	0	0	None	None	Audit	Audit	Ward
PCH	200000	220	DGH	17.5	7	7	0	0	0	0	0	None	None	Nurses	Nurses	Ward
PEH	65000	74	DGH	0	3	0	0	0	0	1	0	Con	Axial	Audit	Audit	GORU
PET	310000	400	DGH	40	16	5	0	0	0	0	1	Con	Axial	Nurses	Nurses	Ward
PGH	490000	899	DGH	139	10	8	63	16	7	0	0	None	None	Nurses	Audit	Ward
PIL	230000	330	DGH	41	8	10	10	0	5	0	0	Con	Axial	Nurses	Admin	Ward
PIN	500000	560	DGH	12	14	8	22	4	5	1	0	None	Axial	Care Asst	Care Asst	GORU
PLY	450000	481	Both	91.5	21	14	40	40	5	0	0	None	Axial	Nurses	Nurses	GORU
PMS	400000	375	DGH	70	12.83	17.64	28	56	5	0	0	Con	Axial	Doctors	Audit	Ward
POW	160000	300	DGH	24.5	9	10	8	10	5	3	0	Con	Axial	Audit	Audit	Ward

Hospital Code	Trauma catchment population	No. of hip fractures treated/annum	Trauma Service Description	Hours of Designated trauma/week	No. of WTE Orthopaedic Consultants	No. of WTE Orthopaedic middle grades	Orthogeriatric consultant hours/week	Orthogeriatric middle grades hours/week	Orthogeriatric ward rounds per week	No. of WTE fragility fracture nurses	No. of WTE fracture liaison nurses	Falls clinic	DXA on-site facility	Data collected by	Data entered by	Where rehabilitation is done
QAP	650000	688	DGH	84	18.93	4.9	30.5	39.5	5	1.8	0	Con	Axial	Nurses	Audit	Ward
QEB	383000	375	DGH	28	13	12	16	4	4	3	0	Con	Axial	Nurses	Audit	GORU
QEG	190000	320	DGH	45.5	8	7	35.5	0	5	1	1	Con	Axial	Nurses	Nurses	Ward
QEQ	350000	400	DGH	37	9.5	11.5	20	40	5	0	1.3	Con	None	Doctors	Admin	Ward
QKL	250000	350	DGH	30	8	4	4	0	2	0	0	Con	Peri	Nurses	Nurses	Ward
RAD	300000	480	Both	124	8.5	10	40	40	5	0	2	Con	None	Audit	Audit	GORU
RBE	550000	492	DGH	56	8	18	32	40	5	0.5	0	Con	None	Doctors	Doctors	GORU
RCH	400000	555	DGH	84	19	6	20	20	5	0	0	Con	Axial	Nurses	Nurses	Ward
RDE	396183	510	DGH	56	12	8	20	10	5	0	0	None	Axial	Nurses	Nurses	Ward
RED	320000	250	DGH	20	10	8	10	0	5	1	0	Con	None	Nurses	Nurses	Ward
RFH	250000	210	DGH	20	6.2	7	20	10	5	0.5	0	Con	Axial	Nurses	Doctors	GORU
RGH	280000	275	DGH	17.5	7.5	5	5	0	2	0	0	None	Axial	Nurses	Nurses	GORU
RHC	190000	239	DGH	17.5	8	9	24	0	5	0	1	Con	None	Nurses	Nurses	Ward
RLI	300000	266	DGH	38	9	10	12	12	3	0	0	Con	Axial	Audit	Audit	Ward
RLU	350000	360	Both	100	25	14	27	4	6	1	0	Con	Axial	Nurses	Audit	Ward
ROT	254000	300	DGH	36	12.2	8	8	0	1	0	0	Con	None	Nurses	Nurses	Ward
RPH	400000	430	Both	56	12	13	12	0	3	0	0	Con	None	Nurses	Nurses	Ward
RSC	650000	570	Tertiary	115	26	11	28	160	7	0	1	Nurse	Axial	Audit	Audit	Ward
RSS	330000	350	DGH	50	4	6	10	0	2	0	0	Con	None	Nurses	Nurses	GORU
RSU	320000	357	DGH	36	13	11	20	45	5	1		Con	Axial	Nurses	Nurses	Ward
RUS	500000	500	DGH	56	11	10	16	56	3	3.8	0	Con	Axial	Nurses	Nurses	Ward
RVB	1020000	924	Both	126.9	12.93	16	30	30	8	0	1	Con	None	Audit	Audit	GORU
RVN	300000	450	Both	70	7.5	8	12	10	3	1.16	1.14	Con	Axial	Nurses	Admin	GORU
SAL	225000	250	DGH	30	8	9	19	35	5	1	0	Con	Peri	Nurses	Admin	Ward
SAN	550000	360	DGH	72	11.5	15	10	0	5	1.5	0	Con	Axial	Nurses	Audit	Ward
SCA	230000	267	DGH	21	6	6	15	0	5	0	0	Con	Axial	Nurses	Audit	Ward
SCM	392000	512	DGH	65	22	16	37.5	0	5	1	2	None	Axial	Admin	Admin	GORU

Hospital Code	Trauma catchment population	No. of hip fractures treated/annum	Trauma Service Description	Hours of Designated trauma/week	No. of WTE Orthopaedic Consultants	No. of WTE Orthopaedic middle grades	Orthogeriatric consultant hours/week	Orthogeriatric middle grades hours/week	Orthogeriatric ward rounds per week	No. of WTE fragility fracture nurses	No. of WTE fracture liaison nurses	Falls clinic	DXA on-site facility	Data collected by	Data entered by	Where rehabilitation is done
SCU	230000	224	DGH	32	6	8	3.5	0	5	0	0	Con	Axial	Nurses	Admin	Ward
SDG	340000	230	DGH	24.5	10	7	8	2	5	2	1	Con	Peri	Nurses	Admin	Ward
SEH.	361000	485	DGH	32	15.27	11	2	0.5	5	1	0.2	Con	Axial	Nurses	Admin	Ward
SGH	500000	625	Both	112	20	10	24	40	5	0	0	Con	Axial	Nurses	Admin	Ward
SHC	350000	440	DGH	62.5	16	12	26	26	5	1	0	None	None	Nurses	Audit	Ward
SHH	377000	362	DGH	59.5	17	10	18	0	6	0	0	Con	Axial	Nurses	Audit	Ward
SLF	275500	220	Both	61	14	11	20	0	1	0.5	0.5	Con	Axial	Doctors	Doctors	GORU
SMV	500000	380	DGH	49	15	12	20	8	3	0	1	Con	None	Nurses	Nurses	GORU
SOU	224000	263	DGH	144	8	8	0	2	1	1	0	Nurse	Axial	Nurses	Nurses	Ward
SPH	450000	410	DGH	45	12.61	13	18	0	4	1	1	Con	Axial	Nurses	Nurses	Ward
STD	156000	222	DGH	17.5	5	6	4	3	4	1	0	Con	Axial	Nurses	Nurses	GORU
STH	400000	210	Tertiary	44	8	0	14	8	5	1	1	Con	Axial	Doctors	Admin	Ward
STM	325000	300	Both	76	9.31	7.34	32	32	5	0	0	Con	Axial	Audit	Audit	Ward
STO	575000	550	Tertiary	60	19	16	15	0	3	2	1	Nurse	Axial	Nurses	Nurses	GORU
STR	250000	350	DGH	40	12	8	10	1	5	0	0	Con	Axial	Nurses	Care Asst	Ward
SUN	375000	420	DGH	52.5	14	9	8	2	5	1.85	0	Con	Peri	Nurses	Nurses	Ward
TGA	250000	350	DGH	53	8	6	2	3	5	0	0	Con	Axial	Nurses	Nurses	Ward
TLF	240000	225	DGH	17.5	8	7	0	0	0	1	0	Nurse	Peri	Doctors	Admin	GORU
TOR	270000	460	DGH	53.5	12	7.5	20	40	3	2	2	Con	Axial	Doctors	Nurses	Ward
TRA	200000	110	DGH	20	6	5	8	0	2	1	0	Con	None	Nurses	Nurses	Ward
TUN	500000	460	Both	70	14	13	6	3	3	0	0	Con	Axial	Audit	Audit	GORU
UCL	198000	130	Both	24	9	11	8	8	2	0	0	None	Axial	Nurses	Admin	GORU
UHC	850000	518	Both	108	26	16	10	0	3	4	0	None	Axial	Nurses	Audit	Ward
UHN	750000	830	Both	129	12	16	25	25	5	1.2	1.2	Con	Axial	Audit	Audit	Ward
UHW	500000	500	Both	92	14	15	30	27	8	3	1	None	Axial	Nurses	Nurses	Ward
VIC	330000	480	DGH	55.5	8	9	14	0	3	0.2	0	Nurse	Peri	Nurses	Admin	GORU
WAR	270000	365	DGH	30	8	7	20	40	4	6.24	0	Con	Axial	Nurses	Nurses	Ward

Hospital Code	Trauma catchment population	No. of hip fractures treated/annum	Trauma Service Description	Hours of Designated trauma/week	No. of WTE Orthopaedic Consultants	No. of WTE Orthopaedic middle grades	Orthogeriatric consultant hours/week	Orthogeriatric middle grades hours/week	Orthogeriatric ward rounds per week	No. of WTE fragility fracture nurses	No. of WTE fracture liaison nurses	Falls clinic	DXA on-site facility	Data collected by	Data entered by	Where rehabilitation is done
WAT	500000	450	DGH	60	10	15	20	50	5	0	0	Con	None	Doctors	Doctors	GORU
WCI	165500	150	DGH	17.5	5	6	0	0	0	1	0	None	Axial	Nurses	Audit	Ward
WDG	450000	330	DGH	68	10	9	8	0	4	0	0	Con	Peri	Nurses	Nurses	Ward
WDH	210000	255	DGH	28	8	5	6	0	3	0	0	None	Axial	Nurses	Admin	Ward
WES	180000	160	DGH	26	8	7	7	7	3	1	0	Con	Axial	Nurses	Nurses	Ward
WEX	550000	330	DGH	48	10	12	3	37.5	5	0	0	Con	None	Nurses	Admin	GORU
WGH	200000	400	DGH	5	7	3	1	2	0	0.6	0.6	Nurse	Axial	Audit	Audit	Ward
WHC	315000	320	DGH	40	9	9	10	0	2	1	1	Con	None	Nurses	Nurses	Ward
WHH	175000	385	DGH	45	12	12	10	40	4	4	2	Con	None	Audit	Audit	GORU
WHI	350000	406	DGH	56	8	10	16	8	5	0	0	Con	Axial	Doctors	Audit	Ward
WHT	240000	140	DGH	20	8	8	8	0	2	0	0	Con	Axial	Doctors	Nurses	Ward
WIR	400000	461	DGH	81	14	10	20	20	5	0	0	Con	Axial	Audit	Audit	GORU
WMH	260000	365	DGH	24	9	9	12	0	3	0	0	Nurse	None	Nurses	Admin	Ward
WMU	254000	220	DGH	30	5	9	6	4	3	1	0	Con	Peri	Nurses	Audit	Ward
WRC	340000	425	DGH	10	9	8	3	3	3	0	1	Con	Axial	Nurses	Nurses	GORU
WRG	300000	435	DGH	43.5	8	8	16	4	7	0	0	Con	None	Nurses	Nurses	Ward
WRX	250000	235	DGH	27	8	6	10	12	2	0	1	Con	None	Nurses	Nurses	GORU
WSH	280000	324	DGH	17.5	10	7	20	6	5	2	2	Con	None	Nurses	Audit	Ward
WWG	180767	300	DGH	28	10	9	4	8	1	1	0	None	None	Nurses	Audit	GORU
WYB	135000	180	DGH	9	5	5	0	0	0	0	0	None	None	Nurses	Admin	Ward
WYT	540000	274	Both	49	12	10	30	5	5	1	0	Con	Peri	Nurses	Nurses	Ward
YDH	350000	400	DGH	37	10	10	20	0	4	1	1	Con	None	Audit	Audit	Ward
YEO	180000	250	DGH	36	7	8	37.5	30	2	0	0.5	None	Axial	Nurses	Admin	Ward

# Further appendices

The following further appendices are available as a separate document available from nhfd.co.uk (Other resources – NHFD – NHFD Reports and Publications – National Reports)

Appendix C – Structure and Governance

Appendix D – Classification Trees

Appendix E – Outlier management

Appendix F – Mortality analysis methods

Appendix G – Trend analysis methods

Appendix H – NHFD chart outlines

# Acknowledgements

NHFD participants: clinical and audit staff in all contributing hospitals

British Geriatrics Society
British Orthopaedic Association
Royal College of Physicians
Royal College of Surgeons of England
Health and Social Care Information Centre
Department of Health
National Clinical Audit Advisory Group
Healthcare Quality Improvement Partnership
Quantics Consulting Ltd











### National Hip Fracture Database National report 2013

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