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The **National Hip Fracture** Database
National Report 2012

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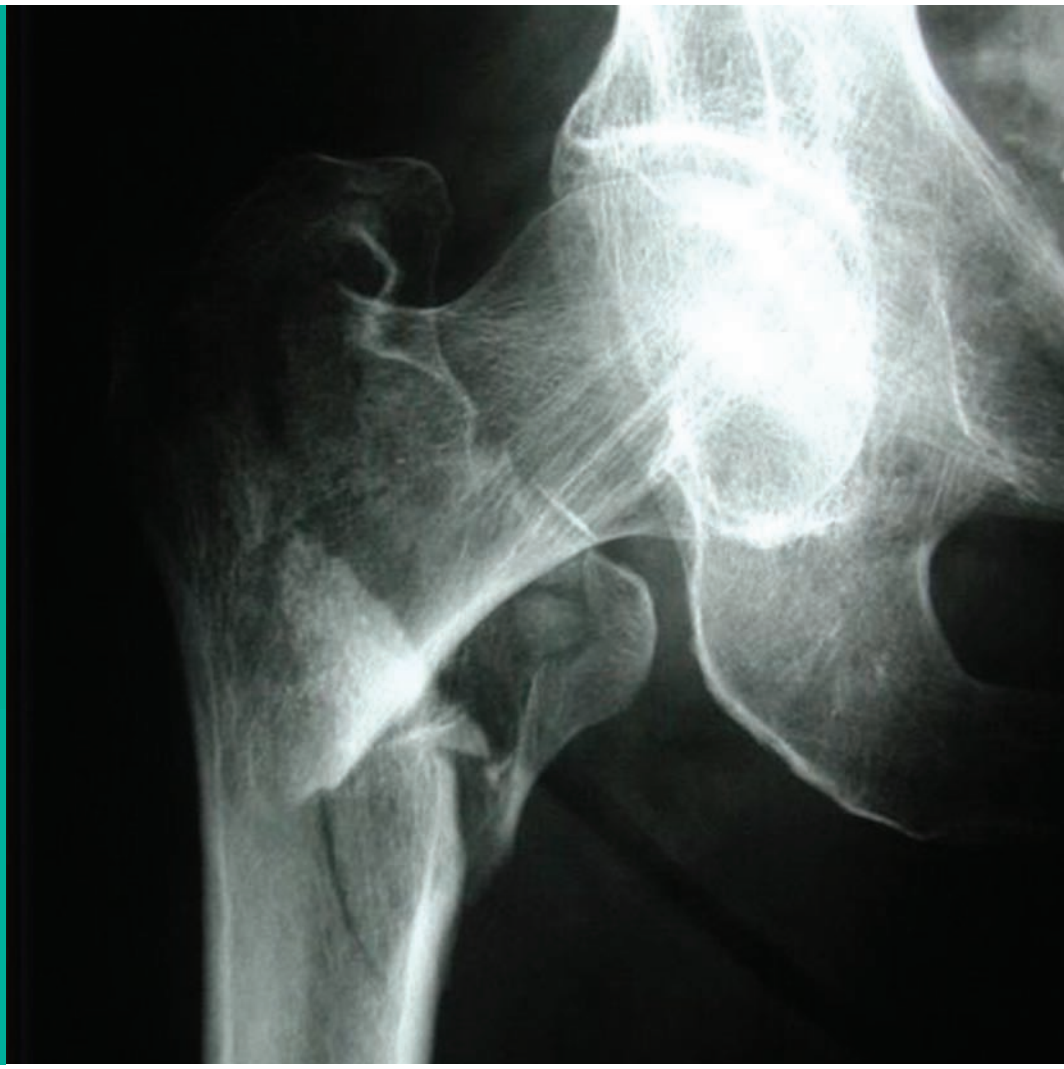

The **National Hip Fracture** Database National Report 2012

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A summary of the Report is also available online at
www.nhfd.co.uk

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Foreword

Hip fracture is a common, serious injury of older people that is likely to become more common as the population ages. Many hip fracture patients are already frail, and for them the injury poses the greatest risk of loss of independence and hence perhaps the loss of home. Care costs are high and, when both acute care and the care needed to provide for subsequent dependency are included, now exceed £2 billion a year for the UK as a whole.

Professor David Oliver
National Clinical Director
for Older People

The NHFD, since its launch in 2007, has done much to improve the quality of care for hip fracture in England, Wales, Northern Ireland, and the Channel Islands. In particular, the much wider availability of collaborative care – provided by orthopaedic surgeons and geriatricians working together – has benefited older and frailer hip fracture patients most. Now they are far more likely to have both their medical and surgical needs addressed early and effectively. This means that more patients proceed promptly to surgery; and that the early identification and treatment of medical problems allows earlier rehabilitation, which in turn promotes independence and hence an earlier return home.

Not only clinical care has improved. The NHFD, by providing managers and clinicians with credible, current local information about the services they run, can prompt and monitor significant service developments – such as dedicated 7-day hip fracture lists, increased rehabilitation staffing, and fracture liaison services to promote effective secondary prevention – that deliver measurable improvements in the quality and cost effectiveness of care.

Professor Keith Willett
National Clinical Director
for Trauma Care

This publication, the fourth National Report from the NHFD, is notable in a number of respects. It demonstrates the widest coverage yet, documenting casemix, care and outcomes of almost 60,000 cases from 180 hospitals; and, with more than 200,000 cases registered since 2007, establishes the NHFD as the most extensive hip fracture audit in the world. Its impact on care is now widely known through international scientific meetings, and similar national hip fracture audits are under development in Australia, New Zealand and Ireland.

In England, the NHFD has made possible the highly successful implementation of the Best Practice Tariff (BPT) for hip fracture care, which provides a financial incentive to Trusts in meeting defined quality standards of care. In the two years since its inception there have been steady rises in the number of hospitals participating, the number of cases submitted, and the number of cases meeting the BPT criteria.

The recently published NICE guideline on hip fracture care has also benefited from the existence of the NHFD. This report documents current compliance with key aspects of the guideline and will thus contribute towards the completion of the NICE baseline assessment tool.

And at a time when improving cost-effectiveness is of increasing importance for the NHS, the demonstration in this Report of a 5% year-on-year reduction in Trust length of stay is welcome, as is the prospect of more detailed NHFD work to follow, aimed at scrutinising much more closely overall NHS length of stay following hip fracture.

None of these achievements would be possible were it not for the NHFD's success in having created – in the words of its 2011 Report – 'a truly national clinical audit, and a critical mass of enthusiasm and expertise in hip fracture care now reflected in the findings reported here'.

The views of the Professor Willett and Professor Oliver are given in a clinical capacity and as national experts in the field. They do not in themselves impose any mandatory requirements on NHS organisations beyond those which already exist in the national hip fracture best practice tariff and the NICE quality standard for hip fracture management, although commissioners are expected to take them into account. The National Contract for Acute Services also requires that providers participate in the NCA appropriate for the services they provide.

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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 in England, Wales, Northern Ireland, and the Channel Islands. Its aim is to improve such care.

- All 188 of the eligible hospitals are now registered with NHFD. 97% of these regularly upload case records in a standard dataset format that covers casemix, care and outcomes. Hospitals receive benchmarked feedback that enables clinicians and managers to monitor and improve the care they provide.

- Around 95% of the cases occurring annually are now documented by NHFD. The total number of cases recorded since its launch in 2007 is now over 200,000, making the NHFD the largest national hip fracture audit in the world.

- Care is audited against six standards: prompt admission to orthopaedic care; surgery within 48 hours and within normal working hours; nursing care aimed at minimising pressure ulcer incidence; routine access to orthogeriatric medical care; assessment and appropriate treatment to promote bone health; and falls assessment. Since April 2009 additional fields – most notably surgery within 36 hours – have been included to meet the needs of the Best Practice Tariff initiative.

- This report covers casemix, care and outcomes of 59,365 cases submitted between 1 April 2011 and 31st March 2012 by 180 hospitals meeting the case threshold of 100 (or a high percentage submission rate in smaller hospitals). The key charts cover compliance with the six care standards, with hospitals in rank order.

- In terms of those standards, and in comparison with the findings of the 2011 National Report:

    1. 52% of patients are admitted to an orthopaedic ward within four hours (down from 56% in 2011)
    2. 83% receive surgery within 48 hours (down from 87%)
    3. 3.7% are reported as having developed pressure ulcers (no change)
    4. 43% are reported as assessed preoperatively by an orthogeriatrician (up from 37%)
    5. 69% are discharged on bone protection medication (up from 66%)
    6. 92% received a falls assessment prior to discharge (up from 81%)

    It is of some concern that compliance with standards 1 and 2 has fallen in the past year. (See relevant charts for further comment) However, since 2009 compliance with standards 4-6 has continued to improve year on year.

    Note: in order to ensure comparability between 2011 and 2012 data, calculations for the above have been made – as for the 2010 report – with the exclusion of 'unknown' data.

- Case mix-adjusted reporting on two key outcomes (30-day mortality, and rate of return home by 30 days) allows fairer inter-hospital comparisons. In the case of 30-day mortality, new processes have been agreed for the identification and management of outlying hospitals. As result of this, and delays in the necessary data linkage, casemix-adjusted 30-day mortality will appear in a Supplementary Report to be published later in the year.

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- 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 such work that might encourage similar efforts elsewhere.

- In England, the NHFD has successfully supported the first two years of the Department of Health's Best Practice Tariff (BPT) initiative, which rewards the achievement of specified standards (surgery within 36 hours; care by surgeon and geriatrician; care protocol agreed by geriatrician, surgeon and anaesthetist; pre/perioperative assessment by geriatrician; geriatrician-led multi-disciplinary rehabilitation; and secondary prevention including falls and bone health assessment).

- Over these two years there have been steady quarter-by-quarter increases in hospital participation (from 57% to 87%); in the number of cases submitted (from 9455 to 14,046); and in the number of cases achieving the enhanced tariff (from 2303 to 7654).

- Although the NHFD has steadily increased its coverage of hip fracture care since 2007, further work is required if the remaining c. 5% of the estimated total incidence is to be included. Gaps remain in the data submitted on reported cases. The total number of data fields for the 59,365 cases reported is 1,240,874, of which 1,150,404 (92.7%) were completed. ASA grade (a measure of prior fitness) and AMT score (a measure of cognitive state) are only variably documented, as is 30-day and 120 day follow-up. Again, further effort is required.

- From April 2012 the NHFD will continue its work as part of a new Falls and Fragility Fracture Audit Programme, with its funding secured for a further three years.

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Introduction

The National Hip Fracture Database

The aim of the National Hip Fracture Database (NHFD) is to improve the care and secondary prevention of hip fracture – the commonest serious injury of older people. The NHFD was developed from 2004 as an independent, clinically-led, web-based audit, with the support of the British Orthopaedic Association (BOA) and the British Geriatrics Society (BGS) and start-up funding from industry sources.

It was launched in 2007, and in 2009 was recognised by the National Clinical Audit Advisory Group for central funding for 2009-2012 as a national clinical audit under the auspices of the Healthcare Quality Improvement Partnership. Its funding is again secured, from 2012 to 2015, together with its identity and further development, within the Falls and Fragility Fracture Audit Programme, again under the auspices of the Healthcare Quality Improvement Partnership.

Since 2007, coverage has expanded steadily, with all 188 eligible hospitals in England, Wales, Northern Ireland and the Channel Islands now registered with NHFD, and 182 regularly contributing data. Participating units upload casemix, care and outcome details in a standard dataset format, and receive regular feedback, with benchmarking at regional and national level. Care is measured against six quality standards set out in the BOA/BGS Blue Book on The care of patients with fragility fracture[1], which cover: prompt admission to orthopaedic care; early surgery; the prevention of pressure ulcers▲; access to acute orthogeriatric care; assessment for bone protection therapy▲; and falls assessment▲.

This synergy of audit, standards and feedback supports clinicians in the improvement of the care they provide, and in service developments aimed at improving care and secondary prevention. The NHFD website offers additional support – in the form of case studies, good practice examples, model job descriptions, business plans and an extensive database of the relevant medical literature.

NHFD central staff – its project manager and two project coordinators – have also organised a series of well-attended regional meetings. These bring together clinicians and managers to share expertise, and report on the use of NHFD in improving the quality and cost-effectiveness of the care they provide. Together these measures have succeeded in raising awareness of hip fracture care, improving clinical practice and service organisation, end delivered improvements in care and outcomes documented in successive National Reports.

The NHFD National Report 2012

General

This publication provides details on the casemix, care and outcomes of 59,365 cases of hip fracture from 180 hospitals that either submitted more than 100 cases over the year from 1st April 2011 to 31st March 2012 (175 hospitals); or had fewer than 100 cases, but with at least 66% of cases submitted (5 hospitals). It follows three previous national reports: in 2009 (64 hospitals; 12,983 cases); in 2010 (129 hospitals; 36,556 cases); and in 2011 (176 hospitals, 53,443 cases) and therefore provides a more extensive and more detailed – but still incomplete – picture of hip fracture care in England, Wales, Northern Ireland and the Channel Islands in 2011/2012.

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In the charts comprising the bulk of this Report makes it clearer, data from participating hospitals is displayed comparatively, and in its first section describes casemix▲: in terms of age, sex-ratio, place of residence, ASA grade▲, cognition, walking ability, and fracture type. The next section follows the journey of care from initial admission through to discharge, with details of time to ward and to surgery, operations performed, medical assessment, development of any pressure ulcers, secondary prevention measures, length of acute hospital stay and destination on discharge.

Finally, a key outcome - namely percentage of patients returning home by 30 days, is reported not in terms of the raw data but by the use of a case-mix adjustment methodology that takes account of the inter-hospital variation in patients treated. (Similarly casemix-adjusted data on mortality is currently in preparation, and will be presented in a Supplementary Report to be published later in the year).

Measuring progress

In terms of the six Blue Book standards, there are concerns that the previous year-on-year improvement in compliance with all six standards has not been sustained. Current data on admission to orthopaedic care within 4 hours and on surgery within 48 hours is disappointing. However the trend to improvement has been maintained for preoperative assessment by an orthogeriatrician, discharge on treatment with bone protection medication, and on falls assessment prior to discharge.

52% of cases were admitted to an orthopaedic ward within four hours (down from 56% in 2011); 83% received surgery within 48 hours (down from 87%); 3.7% were reported as having developed pressure ulcers (no change). 43% were reported as assessed preoperatively by an orthogeriatrician (up from 37%); 69% discharged on bone protection medication (up from 66%); and 92% receiving a falls assessment prior to discharge (up from 81%).

Standard	2009	2010	2011	2012
1. Admission to orthopaedic ward within 4 hours	N/A	55%	56%	52%
2. Surgery within 48 hours and during working hours	75%	80%	87%	83%
3. Patients developing pressure ulcers	N/A	6%	3.7%	3.7%
4. Pre-operative assessment by an orthogeriatrician	24%	31%	37%	43%
5. Discharged on bone protection medication	N/A	57%	66%	69%
6. Received a falls assessment prior to discharge	44%	63%	81%	92%

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

Also of note is a small but significant reduction in the mean length of acute and post-acute stay – the latter within the admitting Trust – from 21.2 days in 2011 to 20.2 days in 2012. With length of stay the dominant component of the overall cost of hip fracture care, this reflects the greater cost-effectiveness of improved care.

Further work is required to establish the overall NHS length of stay (as opposed to length of stay in the admitting Trust). The NHFD has commissioned work on data linkage, to be carried out by the Royal College of Surgeons Clinical Effectiveness Unit (RCS CEU) and aiming to establish variance in

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'superspell'▲. It is hoped that results – expected to uncover considerable variance in the cost-effectiveness of care – will be available for inclusion in the NHFD 2012 Supplementary Report, to be published later in the year.

Audit and Change

The aim of NHFD is to improve the care and secondary prevention of hip fracture. As will be clear from the above, the NHFD has had, in its early years and in relation to the Blue Book standards, some success in that aim, though recent national data on early care is disappointing.

Clearly, national progress in hip fracture care as documented in this Report simply reflects the cumulative impact of innumerable local initiatives by participating hospitals. The Report therefore also includes, as did previous reports, a number of vignettes that describe how hospitals have made use of NHFD to prompt, monitor and evaluate clinical and service developments. They demonstrate how – using trusted and current data on the care they provide – clinicians and managers can work together to achieve not only remarkable improvements in care but, in some cases, substantial efficiency savings as well, mainly through reduction in length of stay – by far the dominant factor in the overall costs of hip fracture care.

The Best Practice Tariff for Hip Fracture Care

The NHFD, with its detailed documentation of casemix, care and outcomes, prompted the selection of hip fracture as a topic for the Department of Health's Best Practice Tariff (BPT) initiative[2], which offers additional payment for cases the care of which meets agreed standards (surgery within 36 hours; care by surgeon and geriatrician; care protocol agreed by geriatrician, surgeon and anaesthetist; pre/perioperative assessment by geriatrician; geriatrician-led multi-disciplinary rehabilitation▲; secondary prevention including falls and bone health assessment) that are monitored by the NHFD.

Between April 2010, when BPT – which applies only in England – began, and April 2012, participation has increased steadily quarter by quarter: with ever-rising numbers of hospitals participating, of cases submitted, and of cases meeting the tariff standards – as demonstrated in the table on page 60.

The NHFD Report and NICE CG 124

The NHFD Report has been designed to audit current practice against the standards set out in the BOA/BGS 'Blue Book' and the criteria set out for the Best Practice Tariff in England. In 2011 the National Institute for Health and Clinical Excellence (NICE) published 'The Management of Hip Fracture in Adults'[3] along with a series of implementation tools and resources. Where the following charts provide data useful for the completion of the NICE baseline assessment tool, this is indicated in the accompanying text and an identifying blue rectangle at the top of the page.

Limitations of the Report

This report demonstrates continuing expansion of the coverage of the NHFD, and its contribution to the conspicuous success of the Best Practice Tariff in hip fracture care over the last two years. However, in terms of compliance with the Blue Book standards, it provides a mixed picture. There is evidence at national level of a loss of momentum in early care (time to admission and time to surgery). Clearly, given the importance of prompt admission and early surgery in the overall quality of patient care, work is needed to re-establish the previous trend to improvement. However, the reported continuing rise of

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preoperative orthogeriatrician involvement, together with improvements in secondary prevention, is welcome.

Ideally, a national clinical audit would acquire complete data on all cases occurring, but the NHFD is still some way from achieving this – and faces difficulties worth looking at in some detail. Progress towards complete coverage cannot be measured until it is possible to establish valid case ascertainment rates at both national and hospital level: a goal that has hitherto proved elusive because at both national and hospital level valid incidence rates are not yet available. This 'denominator problem' is currently being addressed via the RCS CEU data linkage exercise mentioned above and making use of both NHFD and HES▲ data.

Meanwhile, ascertainment rates are therefore to some degree speculative. The 59,365 cases included in this Report represent only around 95% of the estimated total number of cases presenting to the hospitals registered. Case ascertainment▲ by hospitals – also reflecting the 'denominator problem', with hospitals supplying their own variously sourced estimates of incidence – varies from 43.2% to 164.6%*.

At case level, as the first chart in the report (p17) shows, incomplete reporting persists, most notably in the reporting of ASA grades and AMT▲ scores (both of which are casemix factors strongly predicting outcomes); and in 30 day and 120 day follow-up, which varies by hospital with an average of respectively 32.3% and 24.6% completeness. To acknowledge this, and as per the 2011 National Report, the proportion of missing data in various fields is represented in the charts that follow by white insertions in the horizontal bars.

As a result of the problem of missing data, the casemix-adjusted reporting of two key outcomes – particularly 30-day return home (see page 58) and 30-day mortality (to be reported in the NHFD 2012 Supplementary Report) – must be regarded as indicative rather than conclusive.

In the case of return home, the data reported is frankly incomplete by reason of the currently limited 30-day follow-up data. In the case of mortality – although deaths and the timing of deaths are reliably reported from central sources – incomplete case reporting by hospitals may under-report hospital mortality, thus skewing the average; and hospitals submitting 100% of cases may as a result appear to be performing less well. The consequences of this for the identification and management of outliers are obvious, and due caution should be exercised in the interpretation of relevant data. NHFD will continue to support and encourage high levels of case ascertainment to address this problem. Meanwhile, outlier identification and management – which will be described in detail in the Supplementary Report, in which casemix-adjusted mortality will appear in funnel-plot format – is now being implemented.

*Case ascertainment is based on information provided for the NHFD Facilities Audit (See Appendix C)

The NHFD 2012 Supplementary Report

For a number of reasons – including staff time constraints, administrative delays arising in relation to information governance, and the need to deal supportively and in detail with clinical teams of possible outlier status in respect of mortality – it was not possible to include in this Report information on a number of important aspects of the work of the NHFD in 2011-2012. Accordingly, a Supplementary Report will be published later in the year. This will report include:

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- Casemix adjusted 30-day mortality in funnel-plot[4] form, with the exclusion of low-ascertainment hospitals in order to provide more robust average and comparative data

- The output of the RCS CEU data linkage project, which aims to address both the 'denominator problem' (thus enabling the provision of more robust ascertainment data), will also, it is hoped, establish NHS superspell data for hip fracture care (hence allowing more robust comparisons of both cost-effectiveness of care and rate of return home)

- Trend data from a group of hospitals with sustained NHFD involvement, high ascertainment levels, and good data completion, together with analyses to assess the impact of various care process factors on key patient outcomes

NHFD: the future

At a time of impending funding pressures for the NHS, the influence the NHFD has demonstrated over the years in improving quality while increasing cost effectiveness should be welcomed; and the costs of the NHFD – both centrally and in the collection of data at hospital level – can therefore be fully justified. Care has improved measurably – with recent exceptions as noted above – and geriatrician involvement and secondary prevention both continue to improve, with the cost-effectiveness of care nationally also appearing to improve. The humane and economic benefits of improved secondary prevention, potentially substantial, are of course not immediate, but likely to emerge over coming years.

To sustain and strengthen the role of the NHFD in improving care, the goal of maximising data completeness at hospital and case level, including follow-up at 30 and 120 days, will be pursued via the NHFD's regional meetings, and in data workshops for those directly involved in collecting and uploading data.

The potential of using NHFD data to improve the evidence base for hip fracture care has been recognised, and the NHFD Scientific and Publications Committee has supported a now published study evaluating risks possibly associated with the use of cemented arthroplasties▲[5] and is currently using trend data from the 2011 Report to evaluate the contribution of orthogeriatrician input to care. A proposed ascertainment study of anaesthetic practice in hip fracture care, the Anaesthetic Sprint Audit Project (ASAP), to be carried out jointly between the NHFD and the Association of Anaesthetists of Great Britain and Ireland, is currently in preparation.

From April 2012 the NHFD has secured funding for a further three years, and will, within the new Falls and Fragility Fracture Audit Project (FFFAP), maintain its identity and continue to develop, while benefiting also from links with other FFFAP work-streams currently addressing the development of Fracture Liaison Services▲ and the audit of injurious falls in institutional settings.

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Participating hospitals (2012)

Indicates inclusion in this report (n = 180); indicates participating in NHFD but not submitting sufficient data to be included in report (n=8).

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

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Princess of Wales Hospital, Bridgend	
Princess Royal Hospital, Telford	TLF
Princess Royal University Hospital, Bromley	BRO
Queen Alexandra Hospital, Portsmouth	QAP
Queen Elizabeth Hospital, Birmingham	QEB
Queen Elizabeth Hospital, Gateshead	QEG
Queen Elizabeth Hospital, King's Lynn	QKL
Queen Elizabeth Hospital, Woolwich	GWH
Queen Elizabeth the Queen Mother Hospital, Margate	QEQ
Queen's Hospital, Burton-upon-Trent	BRT
Queen's Hospital, Romford	OLD
Rotherham District General Hospital	ROT
Royal Albert Edward Infirmary, Wigan	AEI
Royal Berkshire Hospital, Reading	RBE
Royal Blackburn Hospital	BLA
Royal Bolton Hospital	BOL
Royal Derby Hospital	DER
Royal Devon & Exeter Hospital, Exeter	RDE
Royal Free Hospital, London	RFH
Royal Glamorgan Hospital, Llantrisant	RGH
Royal Gwent Hospital, Newport	
Royal Hampshire County Hospital, Winchester	RHC
Royal Lancaster Infirmary	RLI
Royal Liverpool University Hospital	RLU
Royal Oldham Hospital	OHM
Royal Preston Hospital	RPH
Royal Shrewsbury Hospital	RSS
Royal Surrey County Hospital, Guildford	RSU
Royal Sussex County Hospital, Brighton	RSC
Royal United Hospital, Bath	BAT
Royal Victoria Hospital, Newcastle	RVN
Royal Victoria Hospital, Belfast	RVB
Russells Hall Hospital, Dudley	RUS
Salford Royal Hospital	SLF
Salisbury District Hospital	SAL
Sandwell General Hospital	SAN
Scarborough General Hospital	SCA
Scunthorpe General Hospital	SCU
South Tyneside District Hospital, South Shields	STD
Southampton General Hospital	SGH
Southend Hospital	SEH
Southport District General Hospital	SOU
St George's Hospital, London	GEO
St Helier Hospital, Carshalton	SHC
St Helier Hospital, Jersey	
St Mary's Hospital, Paddington	STM
St Mary's Hospital, Isle of Wight	IOW
St Peter's Hospital, Chertsey	SPH
St Richard's Hospital, Chichester	STR
St Thomas' Hospital, London	STH
Stafford Hospital, Stafford	SDG
Stepping Hill Hospital, Stockport	SHH
Stoke Mandeville Hospital, Aylesbury	SMV
Sunderland Royal Hospital	SUN
Tameside General Hospital, Manchester	TGA
The Great Western Hospital, Swindon	PMS
The Princess Alexandra Hospital, Harlow	PAH
The Royal Cornwall Hospital, Treliske	RCH
The Royal London Hospital	LON
Torbay District General Hospital	TOR
Trafford General Hospital, Manchester	TRA
Tunbridge Wells Hospital	TUN
Ulster Hospital	NUH
University College Hospital London	UCL
University Hospital, Nottingham	UHN
University Hospital Aintree	FAZ
University Hospital Coventry	UHC
University Hospital Of North Durham, Darlington	DRY
University Hospital of North Staffordshire, Stoke-on-Trent	STO
University Hospital of North Tees, Stockton-on-Tees	NTG
University Hospital of Wales, Cardiff	UHW
University Hospital, Lewisham	LEW
Victoria Hospital, Blackpool	VIC
Wansbeck Hospital	ASH
Warrington Hospital	WDG
Warwick Hospital	WAR
Watford General Hospital	WAT
West Cumberland Hospital, Whitehaven	
West Middlesex University Hospital, Isleworth	WMU
West Suffolk Hospital, Bury St. Edmunds	WSH
West Wales General Hospital, Carmarthen	WWG
Weston General Hospital, Weston-Super-Mare	WGH
Wexham Park Hospital, Slough	WEX
Whipps Cross University Hospital	WHC
Whiston Hospital, Prescot	WHI
Whittington Hospital, London	WHT
William Harvey Hospital, Ashford	WHH
Withybush Hospital, Haverford West	WYB
Worcestershire Royal Hospital, Worcester	WRC
Worthing & Southlands Hospital	WRG
Wythenshawe Hospital, Manchester	WYT
Yeovil District Hospital	
York Hospital	YDH

In all of the following charts hospitals are identified by their unique three letter code.

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Mapping the NHFD Report to NICE Clinical Guidance 124

The NHFD report has been designed to audit current practice against the standards set out in the BOA/BGS 'Blue book' and, in England, the elements of the Best Practice Tariff. In 2011 the National Institute for Health and Clinical Excellence published 'The Management of Hip Fracture in Adults' along with a series of implementation tools and resources. Some of the NHFD Report charts have data that corresponds to NICE guidance to a greater or lesser degree:

CHART 8 - AMT score

'Healthcare professionals should deliver care that minimises the patient's risk of delirium and maximises their independence, by actively looking for cognitive impairment when patients first present with hip fracture.'

CHART 9 - A&E to orthopaedic ward in 4 hours

'From admission, offer patients a formal, acute orthogeriatric or orthopaedic ward-based Hip Fracture Programme.'

This chart is indicative of how well a hospital has organised its process for ensuring that hip fracture patients are managed on hip fracture wards.

CHART 10 - Type of anaesthesia

'Offer patients a choice of spinal or general anaesthesia after discussing risks and benefits. Consider intraoperative nerve blocks for all patients undergoing surgery.'

This chart demonstrates the type of anaesthetic given rather than whether or not a choice of anaesthetic was given.

CHART 11 - Surgery within 36 hours of admission

'Perform surgery on the day of, or the day after admission.'

For the majority of patients, this recommendation is the equivalent of 'within 36 hours'.

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CHART 12 - Surgery in 48hours and during normal working hours

'Schedule hip fracture surgery on a planned trauma list.'

Although a scheduled trauma list can take place outside of normal working hours, the small number of hospitals that have an abnormally high rate of surgery 'within 48hours but not within working hours' may wish to analyse their data further with a view to addressing potential risks associated with out-of-hours surgery.

CHART 13 - Reason delay beyond 36 hours.

'Offer magnetic resonance imaging (MRI) if hip fracture is suspected despite negative anteroposterior pelvis and lateral hip x-ray. If MRI is not available within 24 hours or is contraindicated, consider computed tomography (CT).'

Hospitals with a high rate of delay due to 'medically unfit – awaiting orthopaedic diagnosis or investigation' may wish to analyse their data further in order to define and address remediable causes of such delays.

CHART 14 - Patients treated without surgery

'If a hip fracture complicates or precipitates a terminal illness, the multidisciplinary team should still consider the role of surgery as part of a palliative care approach.'

Hospitals with a high rate of non-operation may wish to review their data to ascertain whether non-operation was appropriately associated with palliative care or late diagnosis.

CHART 16 - Surgery type for displaced intracapsular fractures

'Perform replacement arthroplasty (hemiarthroplasty or total hip replacement) in patients with a displaced intracapsular fracture.'

CHART 17 - Cementing of arthroplasties

'Use cemented implants in patients undergoing surgery with arthroplasty.'

CHART 18 - Total hip replacements in displaced intracapsular fractures

'Offer total hip replacements to patients with displaced intracapsular fractures who: were able to walk independently out of doors with no more than the use of a stick and are not cognitively impaired and are medically fit for anaesthesia and the procedure.'

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This chart was designed with filters that match the NICE guidance as closely as possible. An ASA of 1-3 was chosen, as most elective hips fall into this range.[6] However, a patient who is considered medically fit for a hemiarthroplasty▲ may not be considered fit for a total hip replacement and the chart can be only indicative of 'compliance'.

CHART 20 - Surgery type for intertrochanteric fractures

'Use extramedullary implants such as a sliding screw in preference to an intramedullary nail in patients with trochanteric fractures above and including the lesser trochanter (AO classification types A1 and A2).

This chart includes all intertrochanteric fractures, but since A3 fractures form the minority of fractures in this group (10 to 15%) the chart is a guide to 'compliance'.

CHART 21 - Surgery type for subtrochanteric fractures

'Use an intramedullary nail to treat patients with subtrochanteric fracture.'

Where the following charts provide data useful for the completion of the NICE baseline assessment tool, this is indicated as follows: **NICE CG 124**

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Chart 1 - Completeness of data fields on cases included in the 2012 National Report

Data:

Total number of fields: 1,240,874
Total number of fields completed: 1,150,404 (92.6%)
All 180 hospitals included in chart.

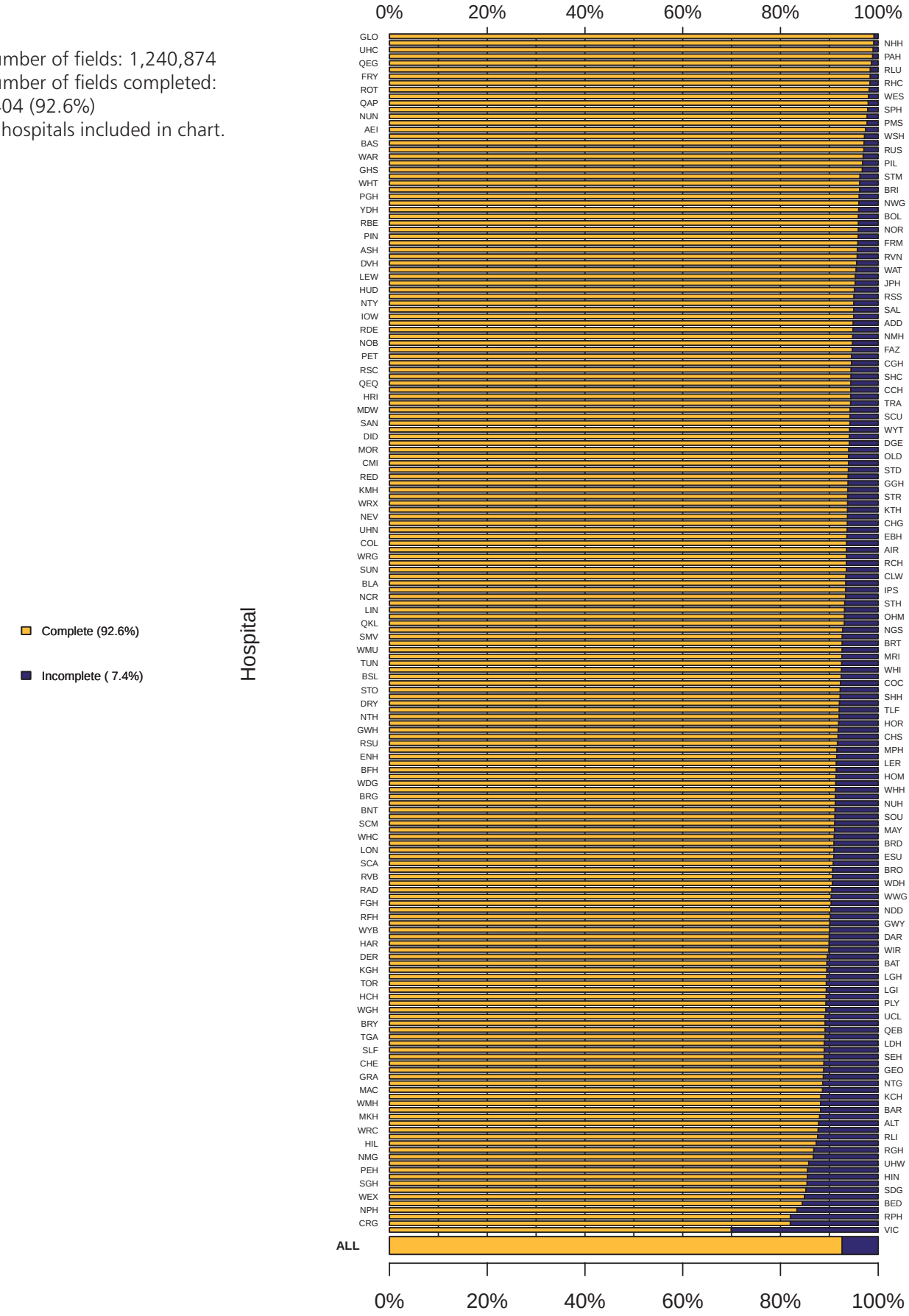

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Chart 2 - Age at admission

Data:

The age distribution is almost identical to last year and reflects local demography, e.g. retirement locations with resultant older populations.

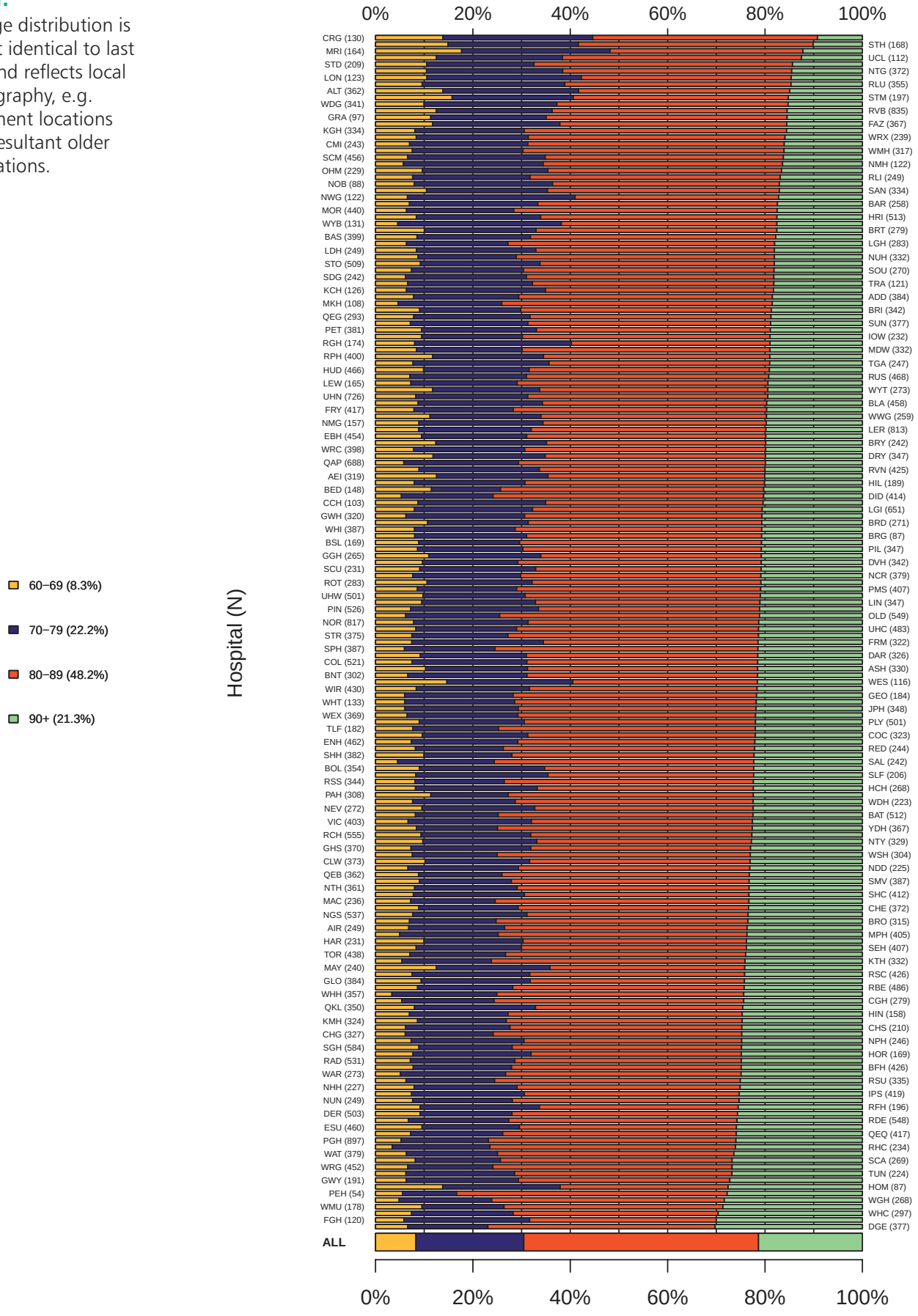

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Chart 3 - Gender

This is almost identical to last year's chart and simply reflects the preponderance of osteoporosis in women.

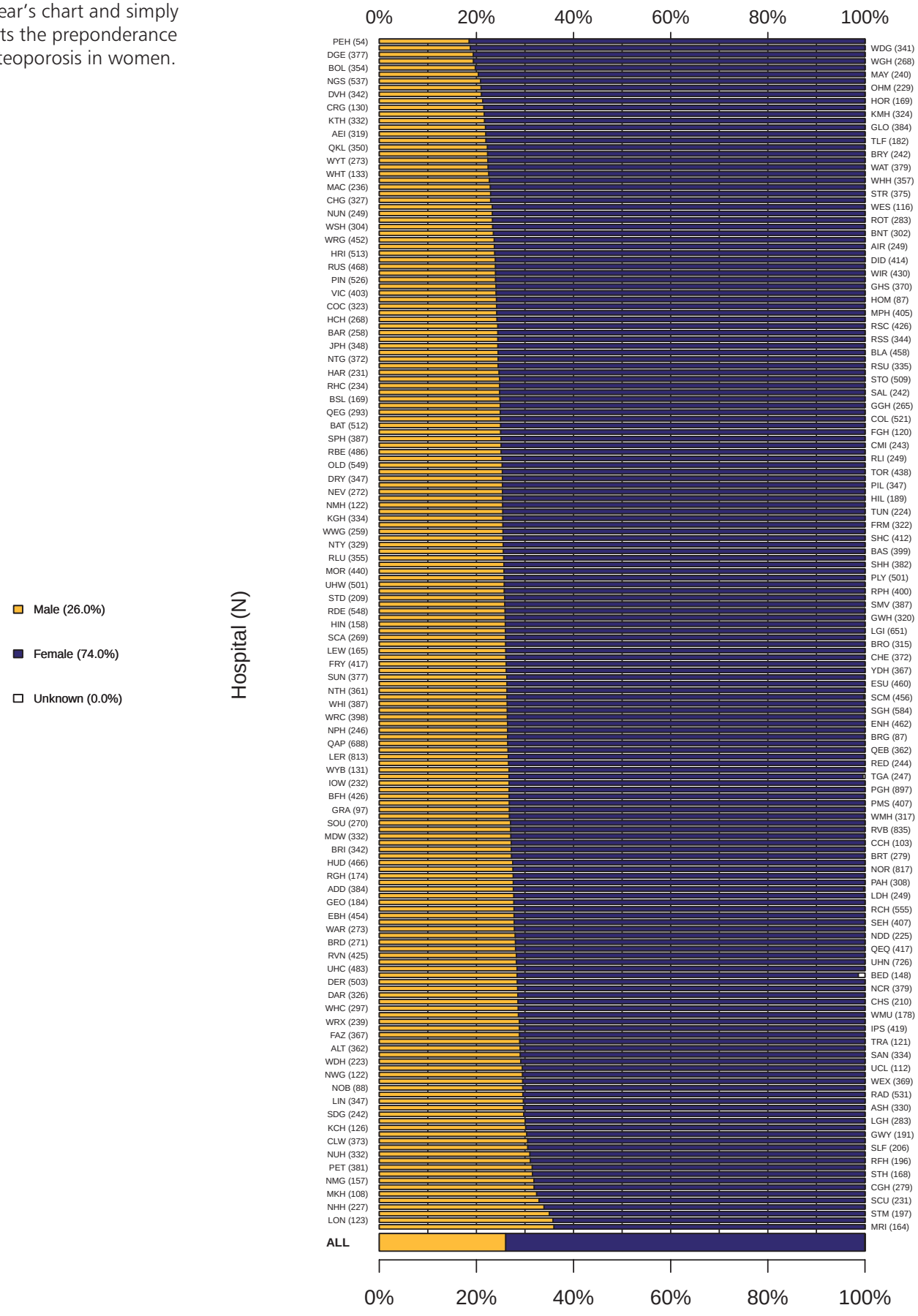

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Chart 4 - Admitted from

Admissions were previously reported without any distinction between those from residential and nursing care. These are now reported separately, with two thirds of patients coming from residential care. Otherwise, figures are similar to those of 2011.

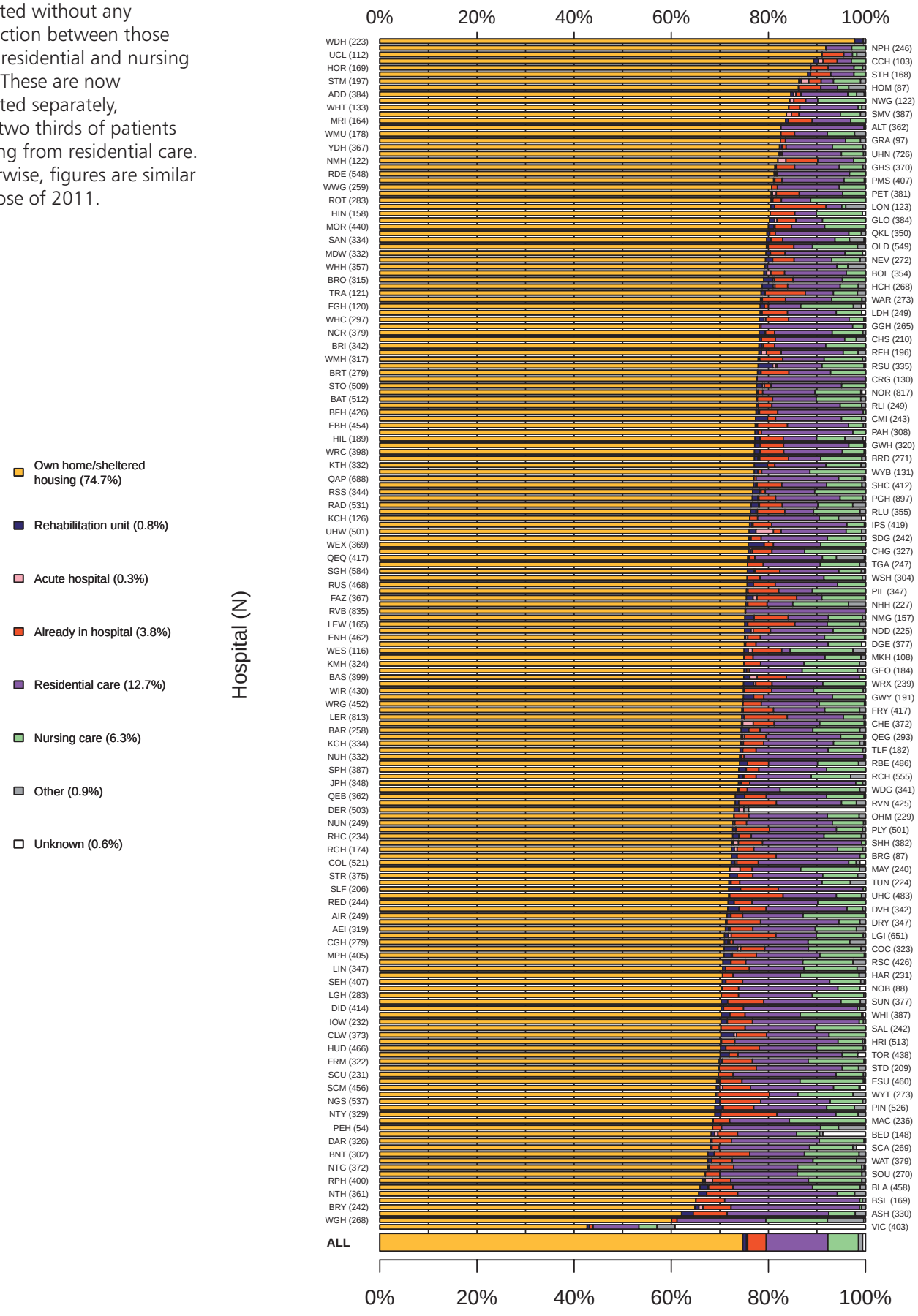

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Chart 5 - ASA grade

There is an increase in 'known' ASA from 87.3% to 90.2%. ASA is an important factor is casemix adjusting; and the range of 'known' (50-100%) demonstrates that some units could still greatly improve their data recording. The distribution of reported ASA grades is remarkably similar to that of 2011.

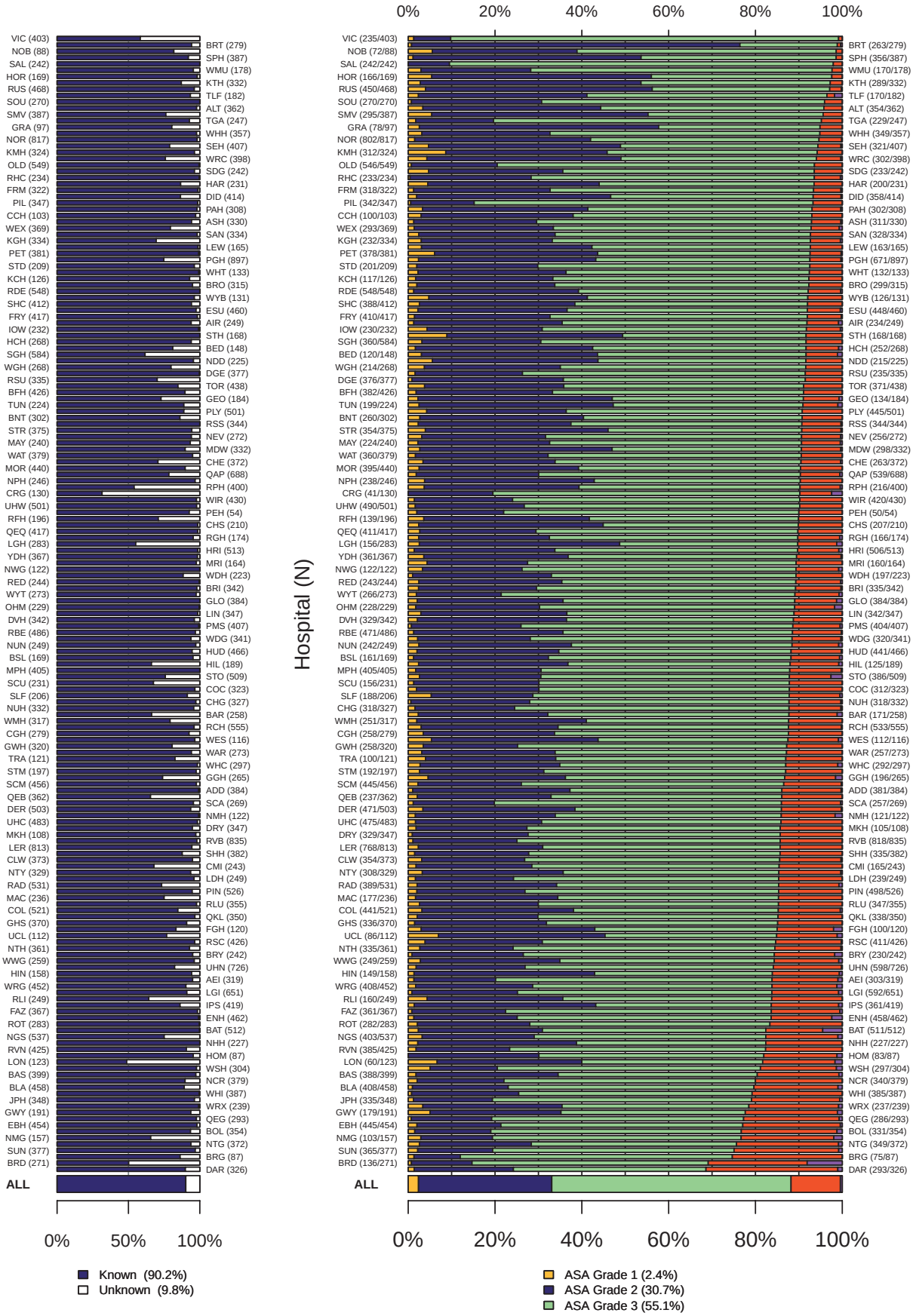

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Chart 6 - Walking ability

The distribution of walking abilities is remarkably similar to that in 2011.

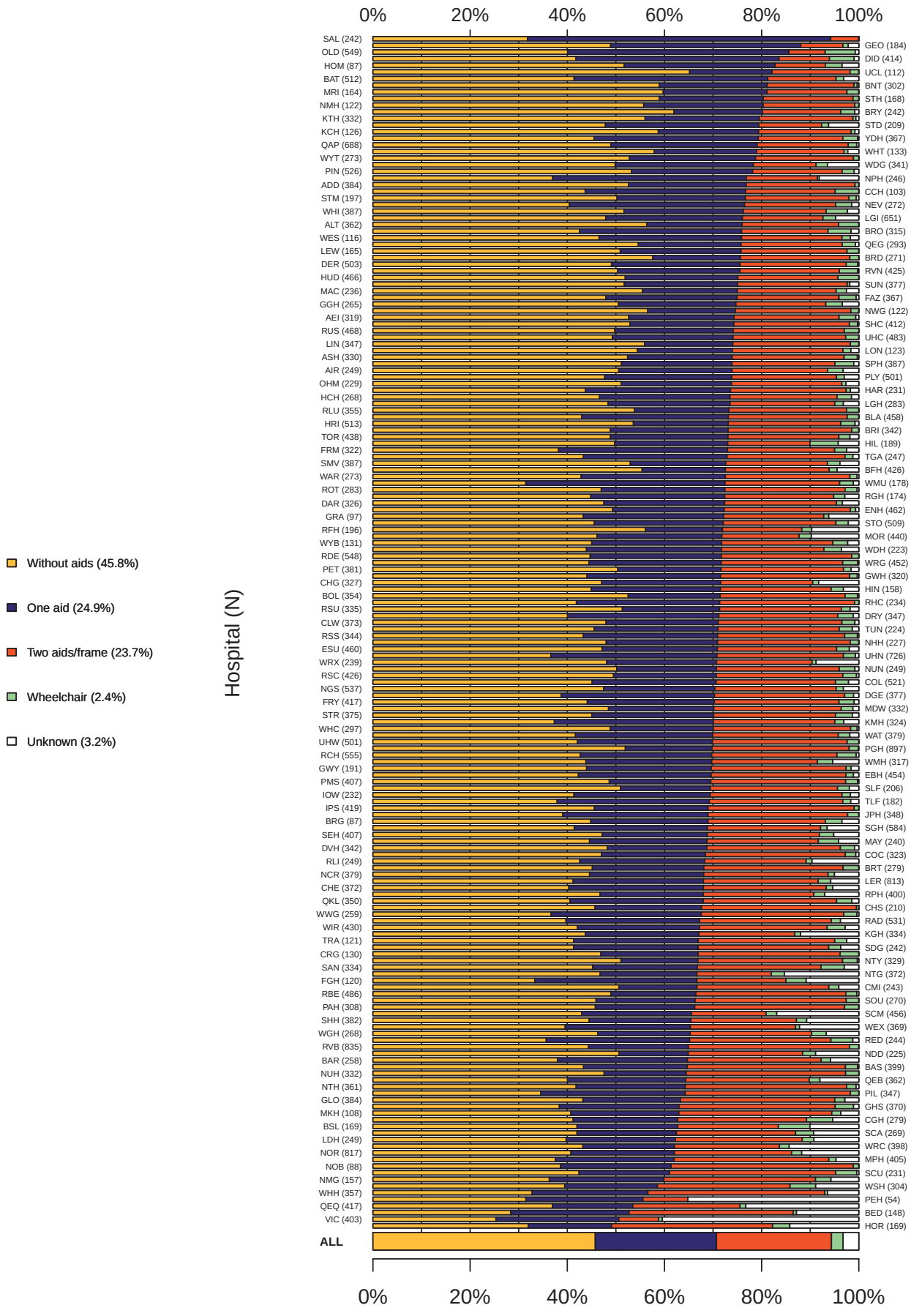

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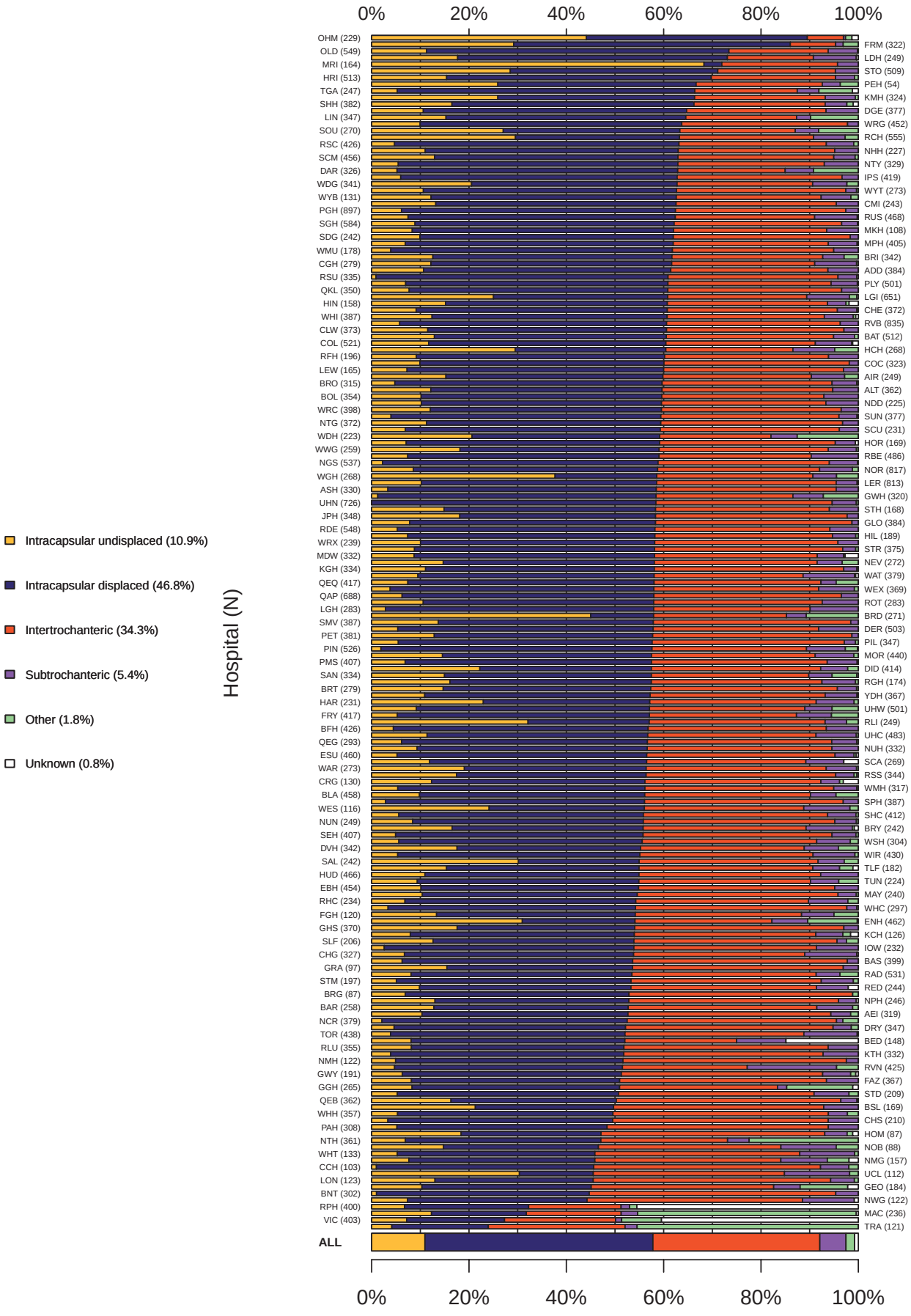
Chart 7 - Fracture type



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Fracture type

Over the past three years the proportion of each fracture type has been remarkably constant:

Fracture type	2010 %	2011 %	2012 %
Undisplaced intracapsular	12	11	11
Displaced intracapsular	45	46	47
Intertrochanteric	35	34	34
Subtrochanteric	5	5	5
Other	3	3	2
Unknown	<1	<1	<1

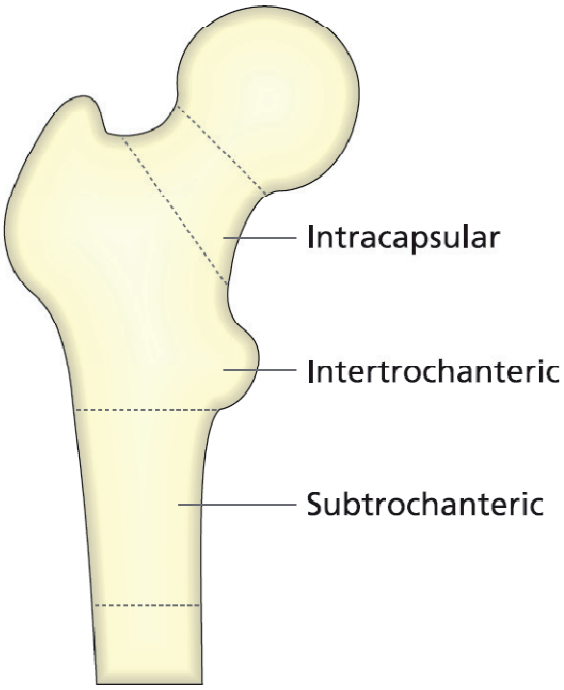

Fig 1

However, a small number of hospitals report over 10% of fracture types as 'unknown'. This, together with the reporting by some hospitals of ratios of displaced to undisplaced intracapsular fractures inversely proportional to the preponderant and hence expected ratio of 4:1, indicates that, in some hospitals, there is a lack of clarity in clinical records and/or poor transfer of data for uploading – and hence scope for significant improvement in audit practice locally.

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Chart 8 - AMT Score

NICE CG 124

Recording the pre- and post-operative AMTS has now become part of the Best Practice Tariff. This shows that in the year prior to the change, AMTS was recorded in 65% of cases, compared with 56.9% in 2010/11, suggesting that hospitals were preparing for the implementation of the new BPT standard.

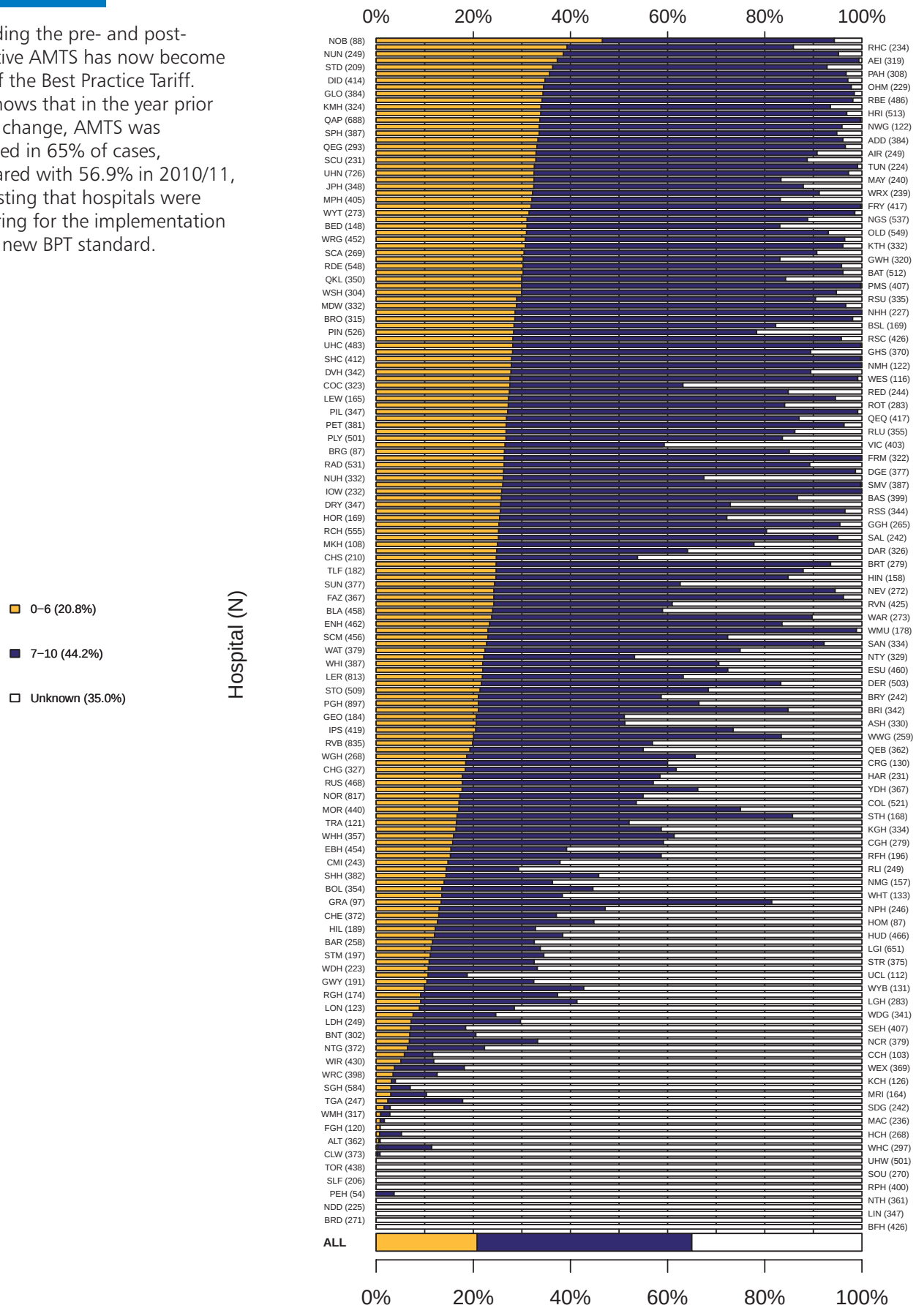

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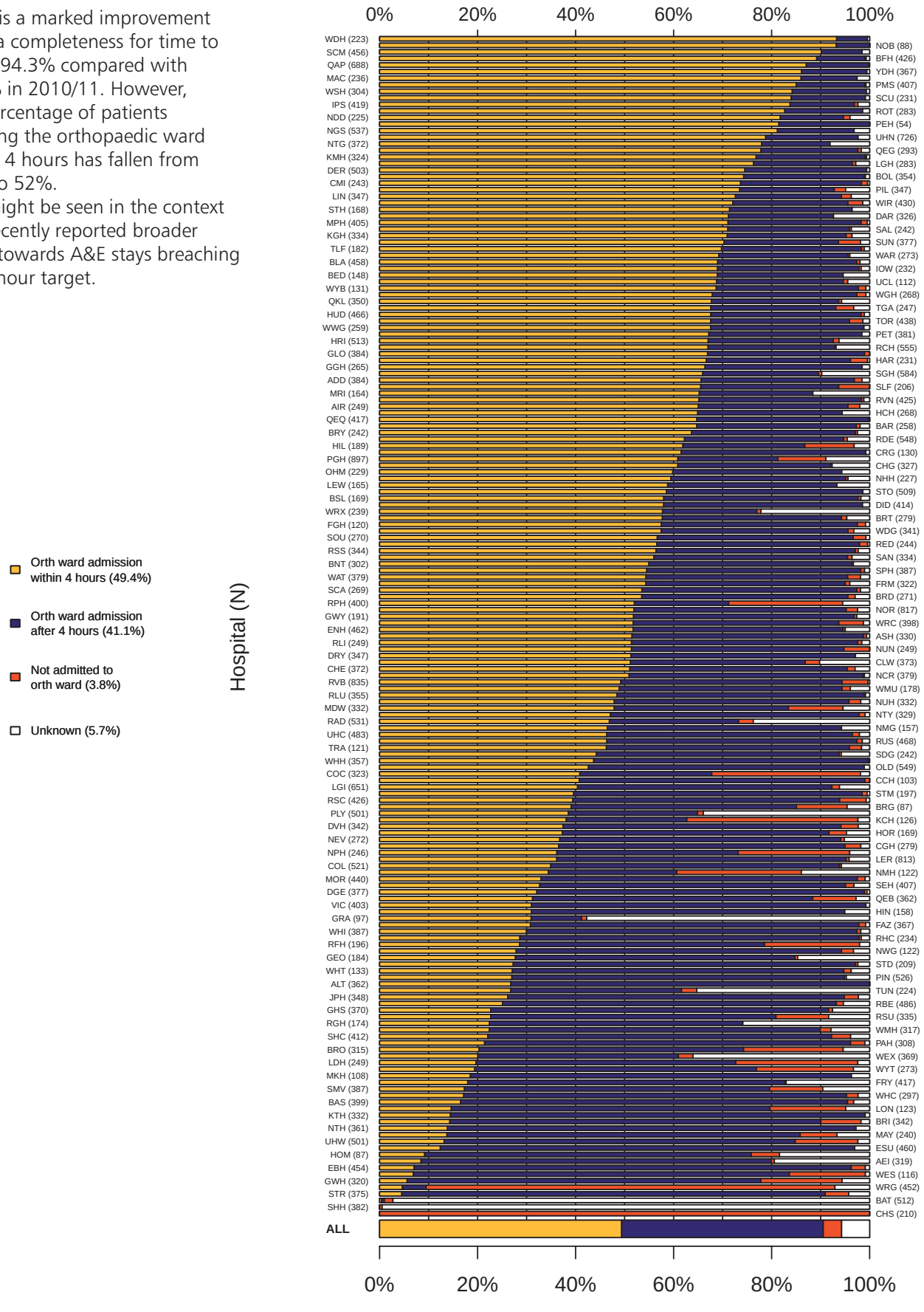
Chart 9 - A&E to Orthopaedic Ward in 4 hours (Blue Book Standard 1)

NICE CG 124

There is a marked improvement in data completeness for time to ward: 94.3% compared with 86.2% in 2010/11. However, the percentage of patients reaching the orthopaedic ward within 4 hours has fallen from 56% to 52%.
This might be seen in the context of a recently reported broader trend towards A&E stays breaching the 4 hour target.



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In 2009/10, with no orthogeriatrician service at Salisbury Hospital, a 'non-collaborative approach', and long pre-operative delays, Salisbury ranked 98th out of 100 NHS Trusts in BPT achievement. A change programme – including increased orthogeriatric and nurse practitioner staffing; additional theatre capacity for trauma; and active leadership by the lead orthopaedic surgeon, the lead anaesthetist and the consultant orthogeriatrician – achieved dramatic improvements in compliance with the six Blue Book standards. By 2012, 80% of patients reached orthopaedic care within four hours; 92% had surgery within 48 hours (and 84% within 36 hours); incidence of pressure ulceration fell from 5.4% to 1.2%; preoperative assessment by geriatrician rose from 1.5% to 95%, and bone protection and falls assessment from 6.2% and 3.2% respectively to 100% in both. Mortality fell from 10.1% to 8.4%, and acute length of stay from 27.6 days to 19.8 days between April 2011 and March 2012.

BPT attainment rose from 1.5% to 84.4% – ranked first in South-West region, and in the top five nationally – bringing in BPT income of £187,790. Even more impressively, cost-effectiveness of care – with savings of £391,000 (costed as 1,955 bed-days at £200 per day) – was greatly increased. Importantly, feedback from patients, relatives and clinical staff has been positive.

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Chart 10 - Type of anaesthesia

NICE CG 124

The introduction of this data field and the resultant chart shows that general anaesthesia (52.7%) is favoured over spinal anaesthesia (42.4%) and that only 29.4% of patients are given a supplementary nerve block.

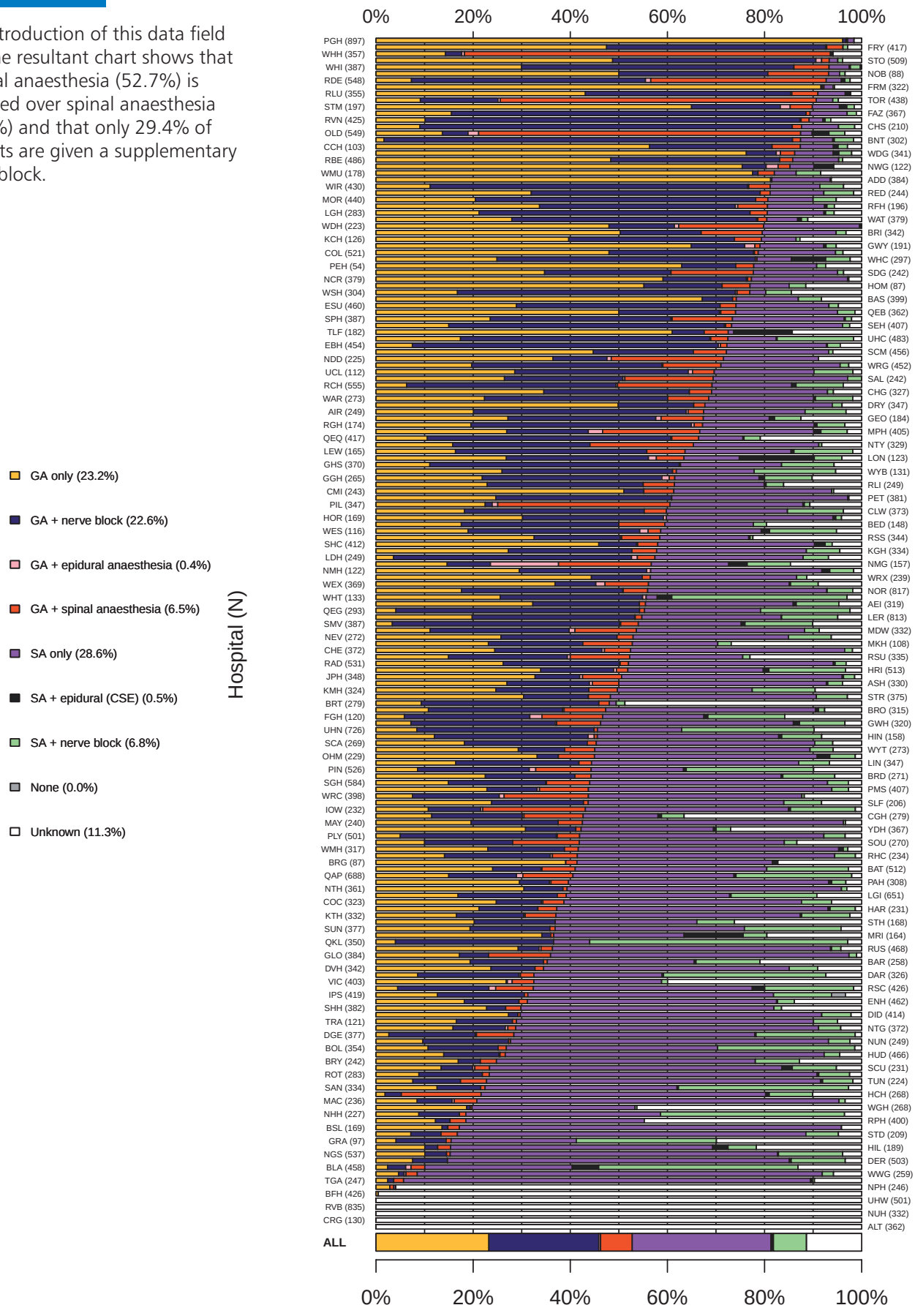

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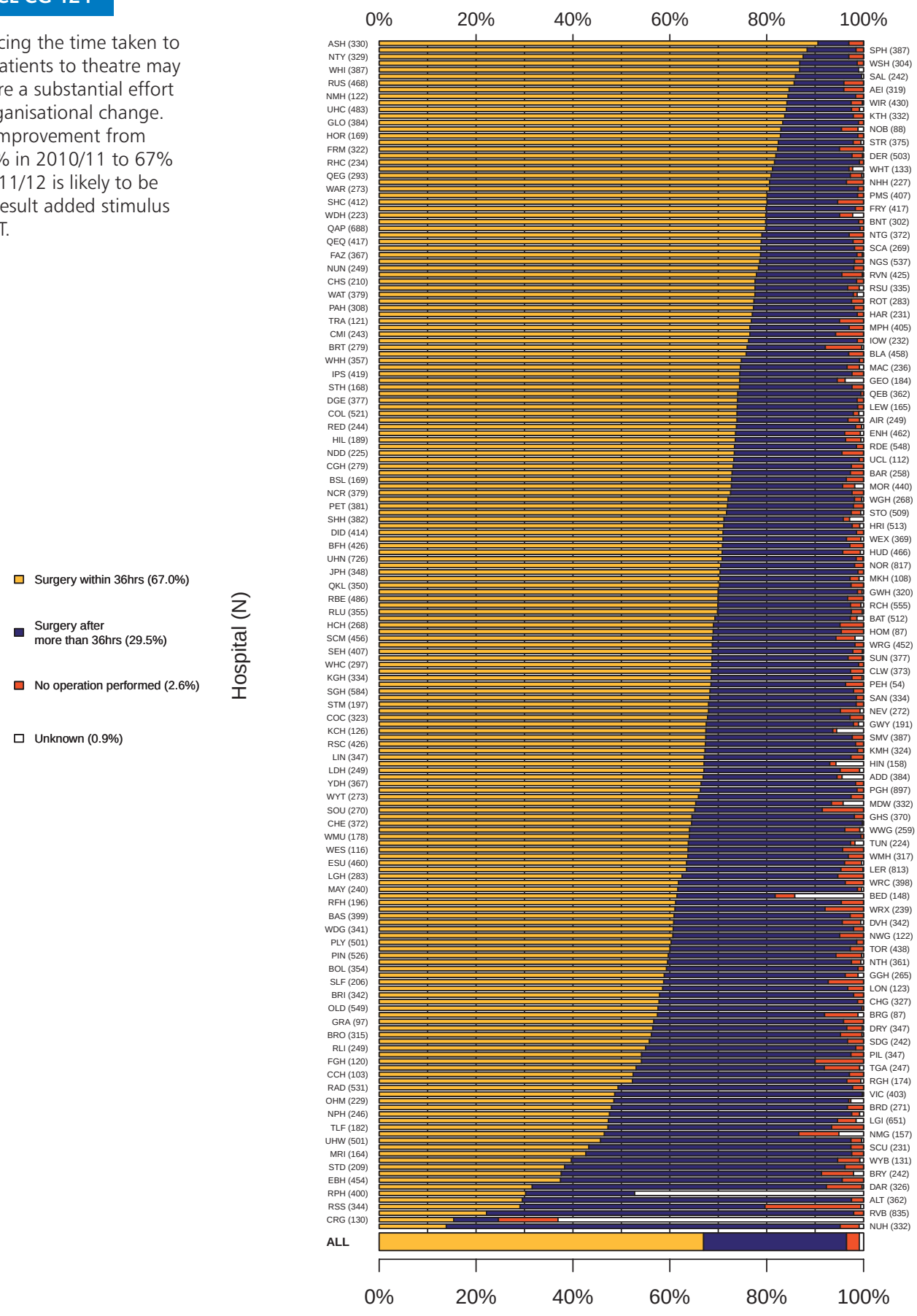
Chart 11 - Surgery within 36 hours of admission

NICE CG 124

Reducing the time taken to get patients to theatre may require a substantial effort in organisational change. The improvement from 61.6% in 2010/11 to 67% in 2011/12 is likely to be as a result added stimulus of BPT.



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In March 2011 Arrowe Park Hospital appointed an NHFD administrator with the specific aims of improving data collection and submission rates to the NHFD, and improving compliance with Best Practice Tariff standards. Cases submitted rose from 108 in 2010 to 457 in 2011. A Rapid Improvement Workshop held in July 2011 resulted in new care pathway documentation that reduced duplication and was designed to capture data reflecting clinical standards and BPT compliance.

With real-time data, a theatre-based trauma board was able to highlight potential delays and address them. As a result of this, and the appointment of an additional trauma surgeon, the proportion of patients having surgery within 36 hours rose from 66% in 2010 to 86% in 2011. The appointment of a second orthogeriatrician has allowed the implementation of a joint protocol, and has improved preoperative care. Improved collaboration with A&E has resulted in the introduction of prompt fascia iliaca analgesia and greatly improved pain control. To review documentation and data, and to discuss issues and review progress, a multidisciplinary team meets monthly.

At Russells Hall Hospital NHFD participation allowed the clinical team to focus on patient experience, minimise delay, improve care and thus reduce morbidity and improve clinical outcomes. Between 2010 and 2012, the percentage of patients operated on within 36 hours rose from 80.9% to 89.3%; with figures for operation within 24 hours rising from 57.9% to 65%. The incidence of pressure ulcers has been reduced from 7.4% to 5.9%, and total Trust length of stay has fallen by 2.8 days.

The innovations behind these improvements include the introduction of dedicated nurse hip practitioners; a dedicated trauma coordinator; a 'hip suite'; patient group directives covering pain relief and IV fluids; and monthly team meetings to review and develop the service.

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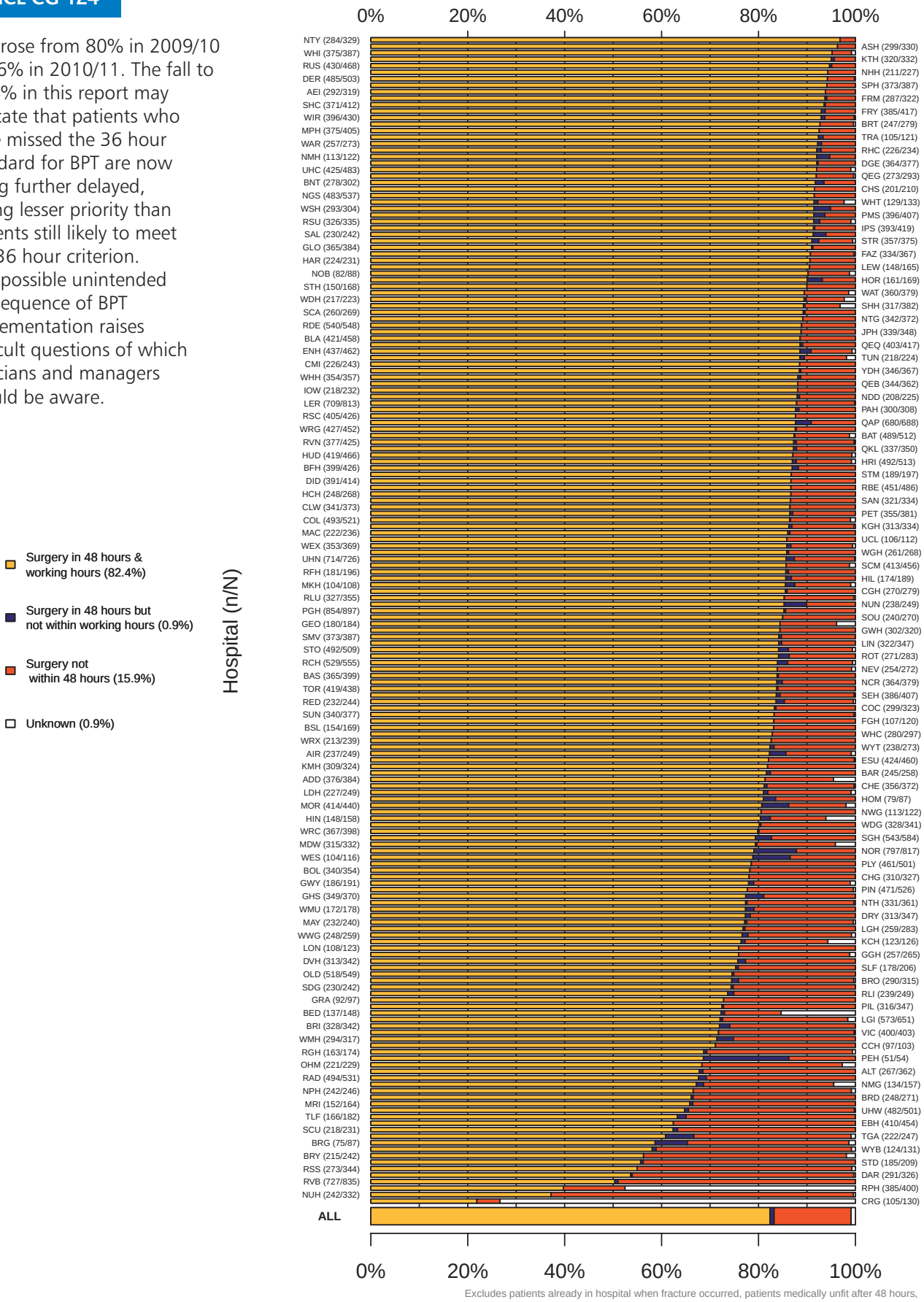
Chart 12 - Surgery within 48 hours and during normal working hours (Blue Book Standard 2)

NICE CG 124

This rose from 80% in 2009/10 to 86% in 2010/11. The fall to 82.4% in this report may indicate that patients who have missed the 36 hour standard for BPT are now being further delayed, taking lesser priority than patients still likely to meet the 36 hour criterion. This possible unintended consequence of BPT implementation raises difficult questions of which clinicians and managers should be aware.



Excludes patients already in hospital when fracture occurred, patients medically unfit after 48 hours, patients dead within 48 hours, and patients who were treated without surgery

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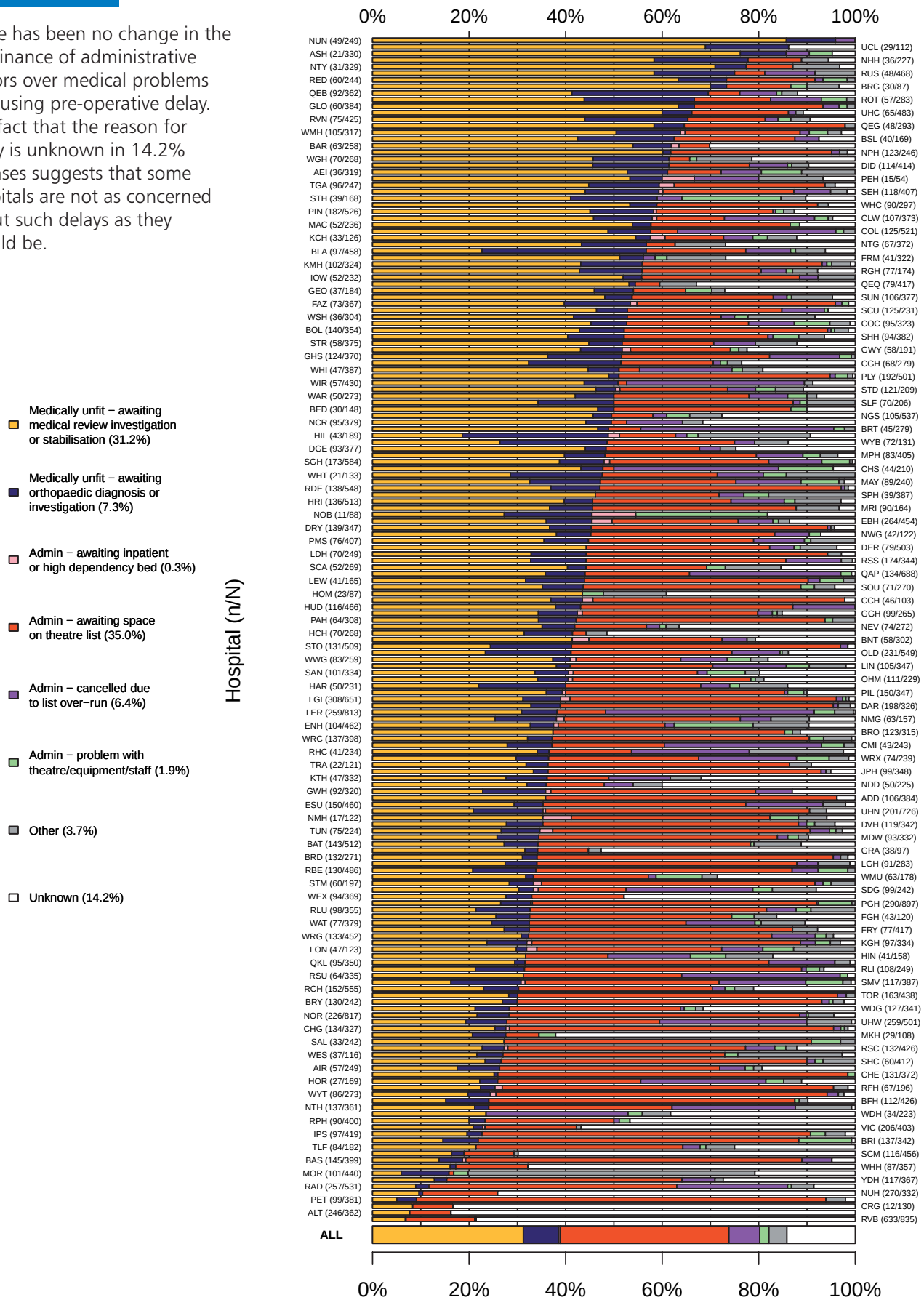
Chart 13 - Reason for delay beyond 36 hours

NICE CG 124

There has been no change in the dominance of administrative factors over medical problems in causing pre-operative delay. The fact that the reason for delay is unknown in 14.2% of cases suggests that some hospitals are not as concerned about such delays as they should be.



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

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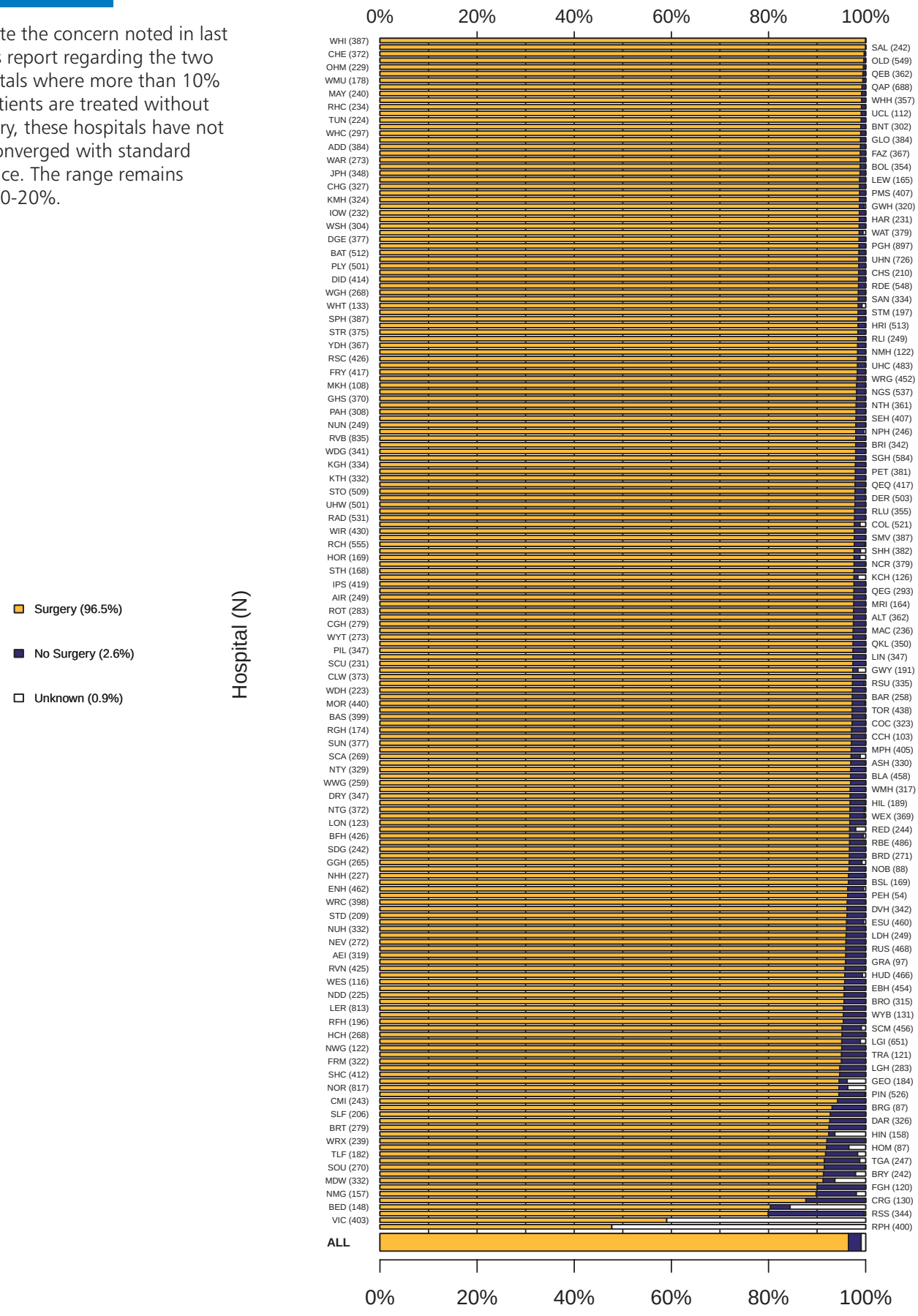
Chart 14 - Patients treated without surgery

NICE CG 124

Despite the concern noted in last year's report regarding the two hospitals where more than 10% of patients are treated without surgery, these hospitals have not yet converged with standard practice. The range remains from 0-20%.



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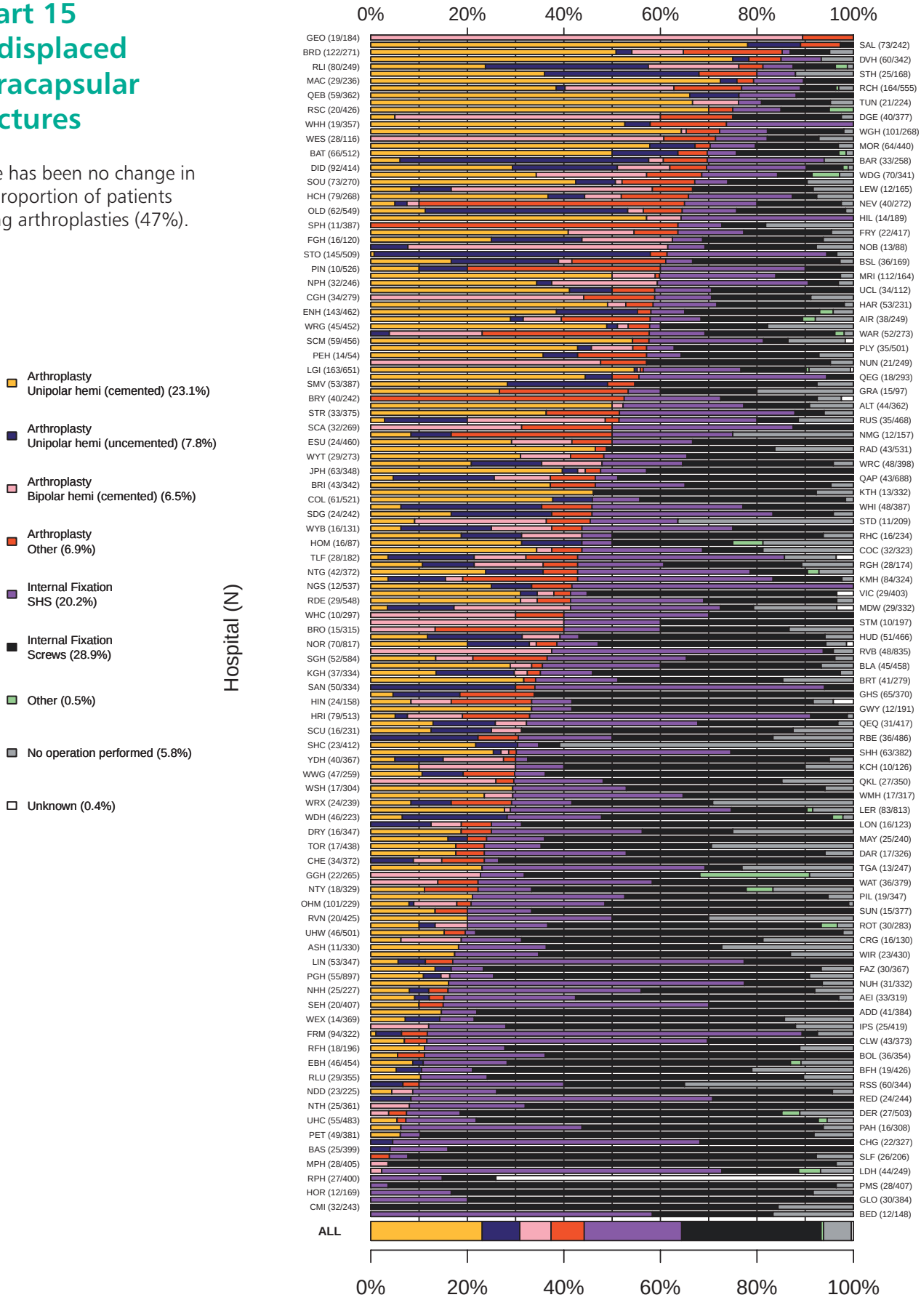
Operations performed by fracture type.

Chart 15 Undisplaced intracapsular fractures

There has been no change in the proportion of patients having arthroplasties (47%).



Hospitals excluded where less than 10 patients suffered an undisplaced intercapsular fracture

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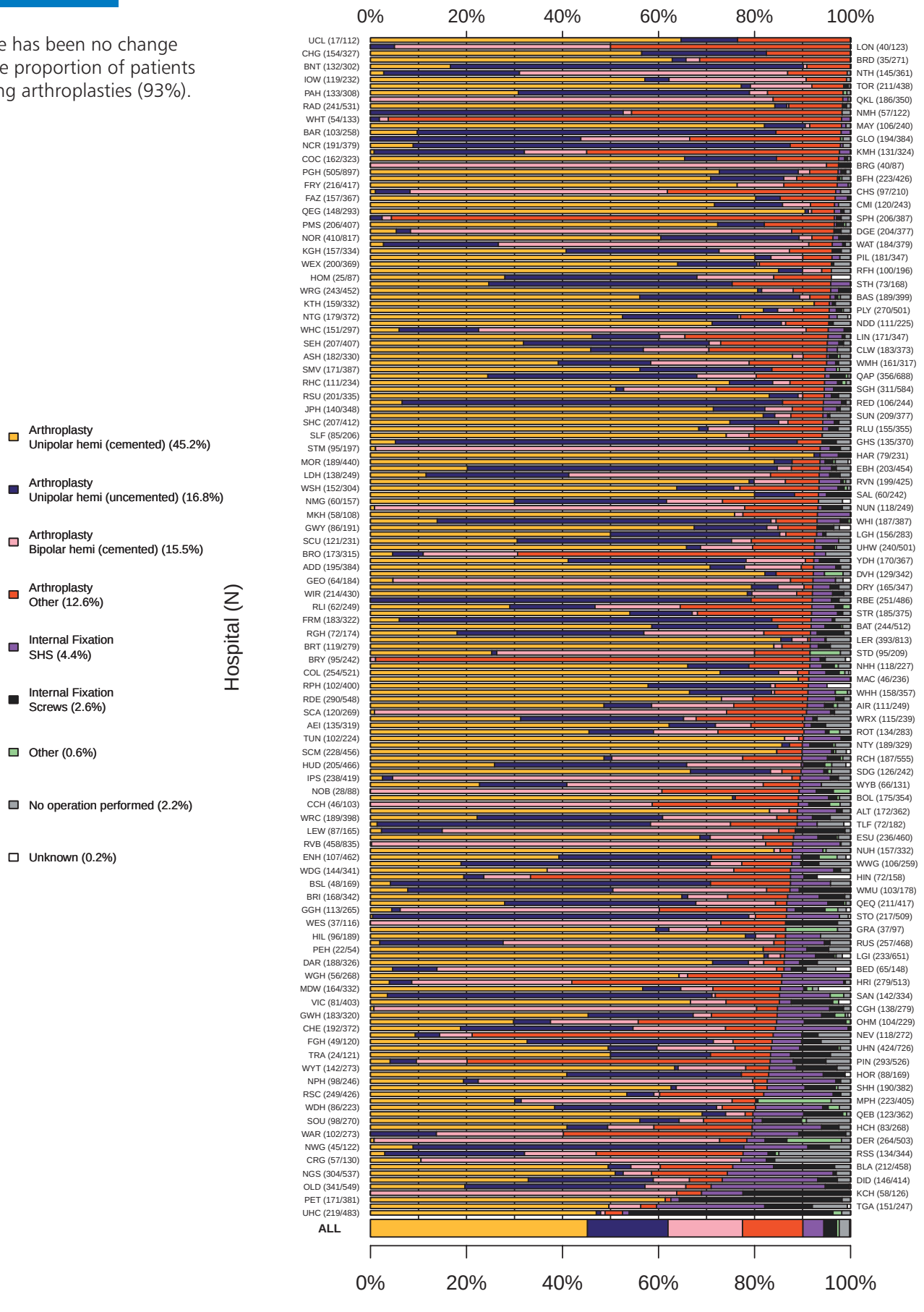
Chart 16 - Displaced intracapsular fractures

NICE CG 124

There has been no change in the proportion of patients having arthroplasties (93%).



Hospitals excluded where less than 10 patients suffered a displaced intercapsular fracture

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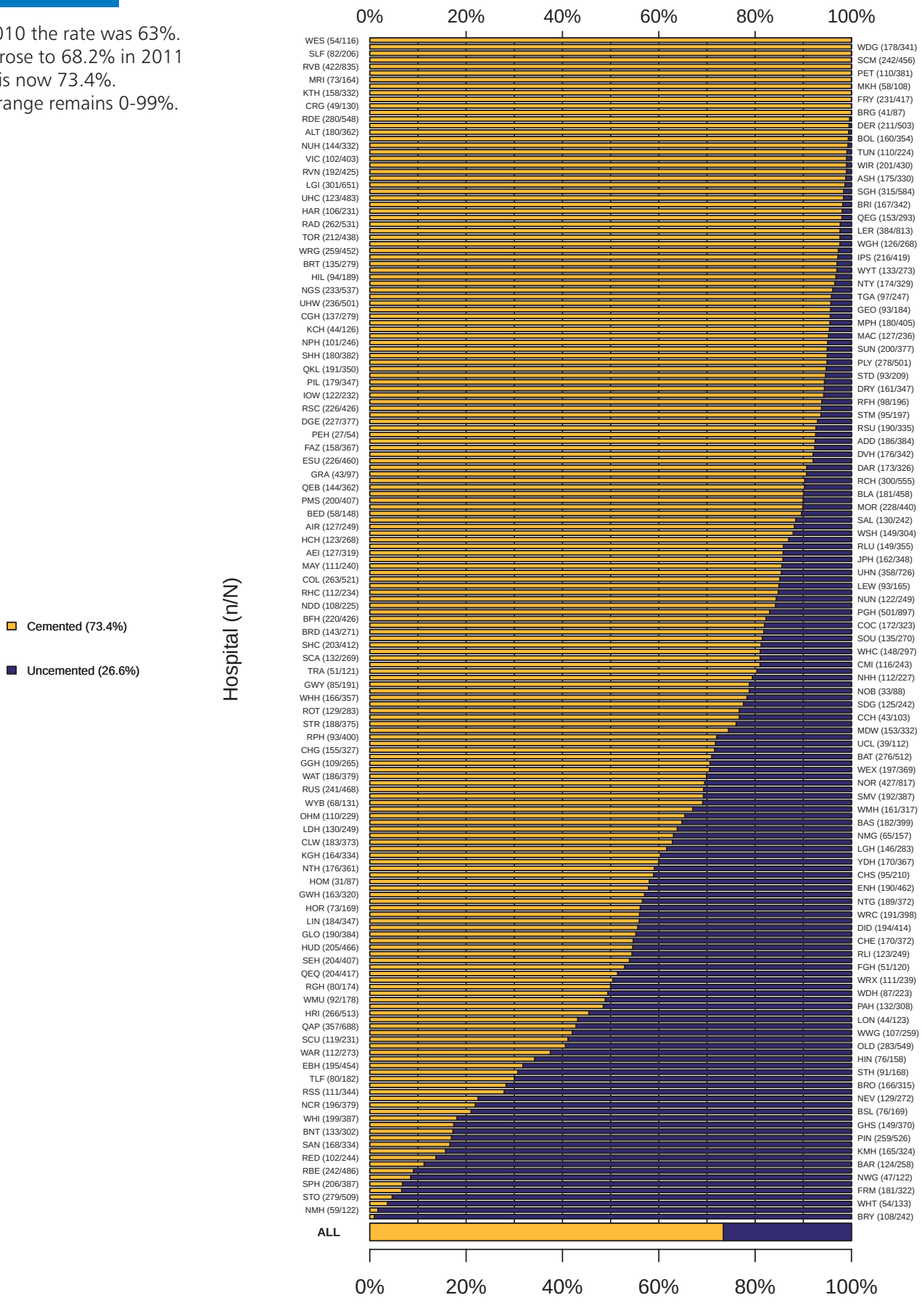
Chart 17 - Cementing of arthroplasties

NICE CG 124

In 2010 the rate was 63%.
This rose to 68.2% in 2011
and is now 73.4%.
The range remains 0-99%.



Includes all patients who underwent arthroplasty

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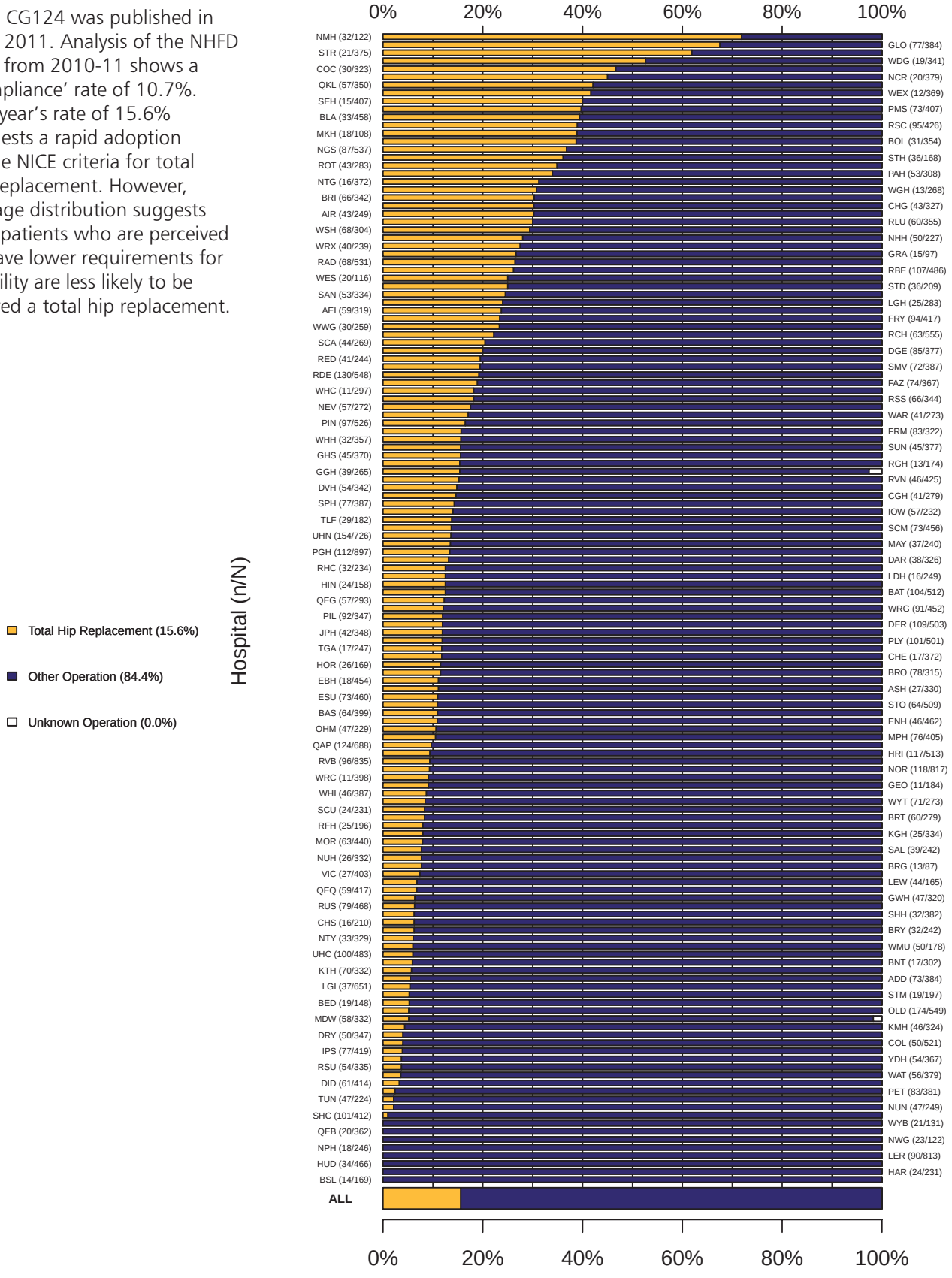
Chart 18 - Total hip replacement for displaced intracapsular fractures

NICE CG 124

NICE CG124 was published in June 2011. Analysis of the NHFD data from 2010-11 shows a 'compliance' rate of 10.7%. This year's rate of 15.6% suggests a rapid adoption of the NICE criteria for total hip replacement. However, the age distribution suggests that patients who are perceived to have lower requirements for mobility are less likely to be offered a total hip replacement.



Eligible patients : Displaced intracapsular fracture, able to walk outdoors with less than one aid, AMTS>7, ASA Grade of 3 or less and received an operation
Hospitals with less than 10 eligible patients excluded

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Chart 19 - Provision of total hip replacement by age of patient

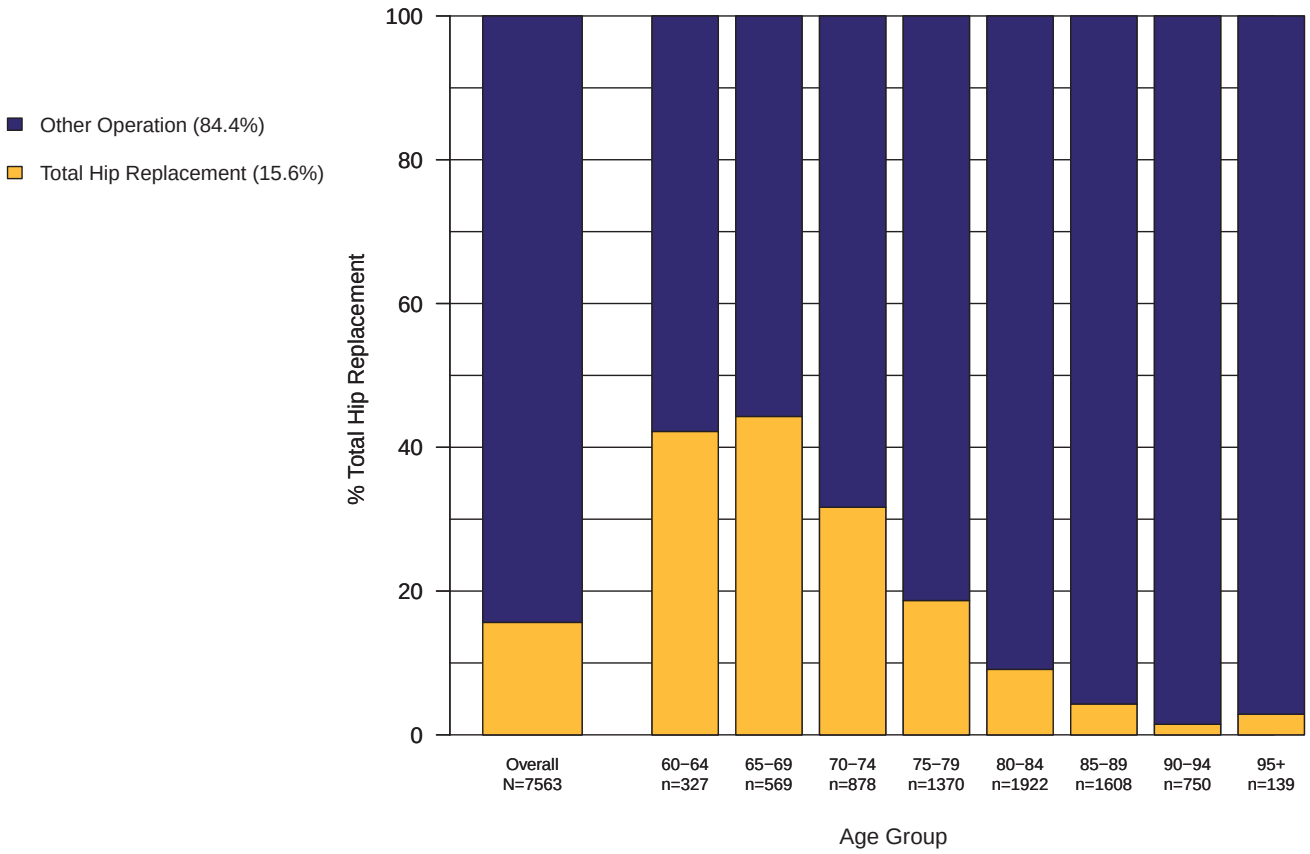

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Chart 20 - Intertrochanteric fractures

NICE CG 124

The percentage of patients reported as having a clinically unlikely cannulated screw fixation has fallen from 1.9% to 1.0%. This may be an effect of improved coding. The percentage of sliding hip screws remains at 84%.

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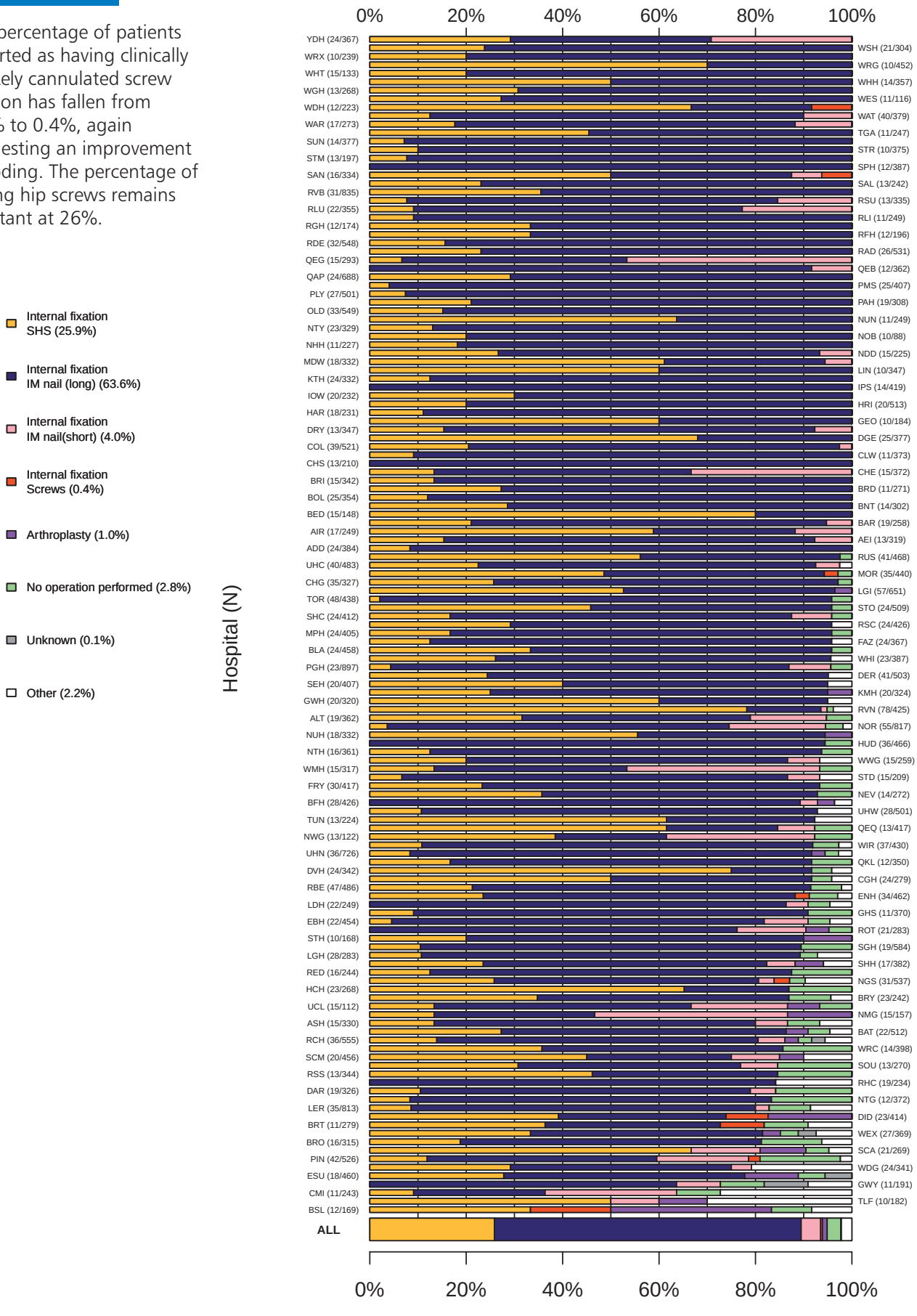
Chart 21 - Subtrochanteric fractures

NICE CG 124

The percentage of patients reported as having clinically unlikely cannulated screw fixation has fallen from 1.2% to 0.4%, again suggesting an improvement in coding. The percentage of sliding hip screws remains constant at 26%.



Hospitals excluded where less than 10 patients suffered a subtrochanteric fracture

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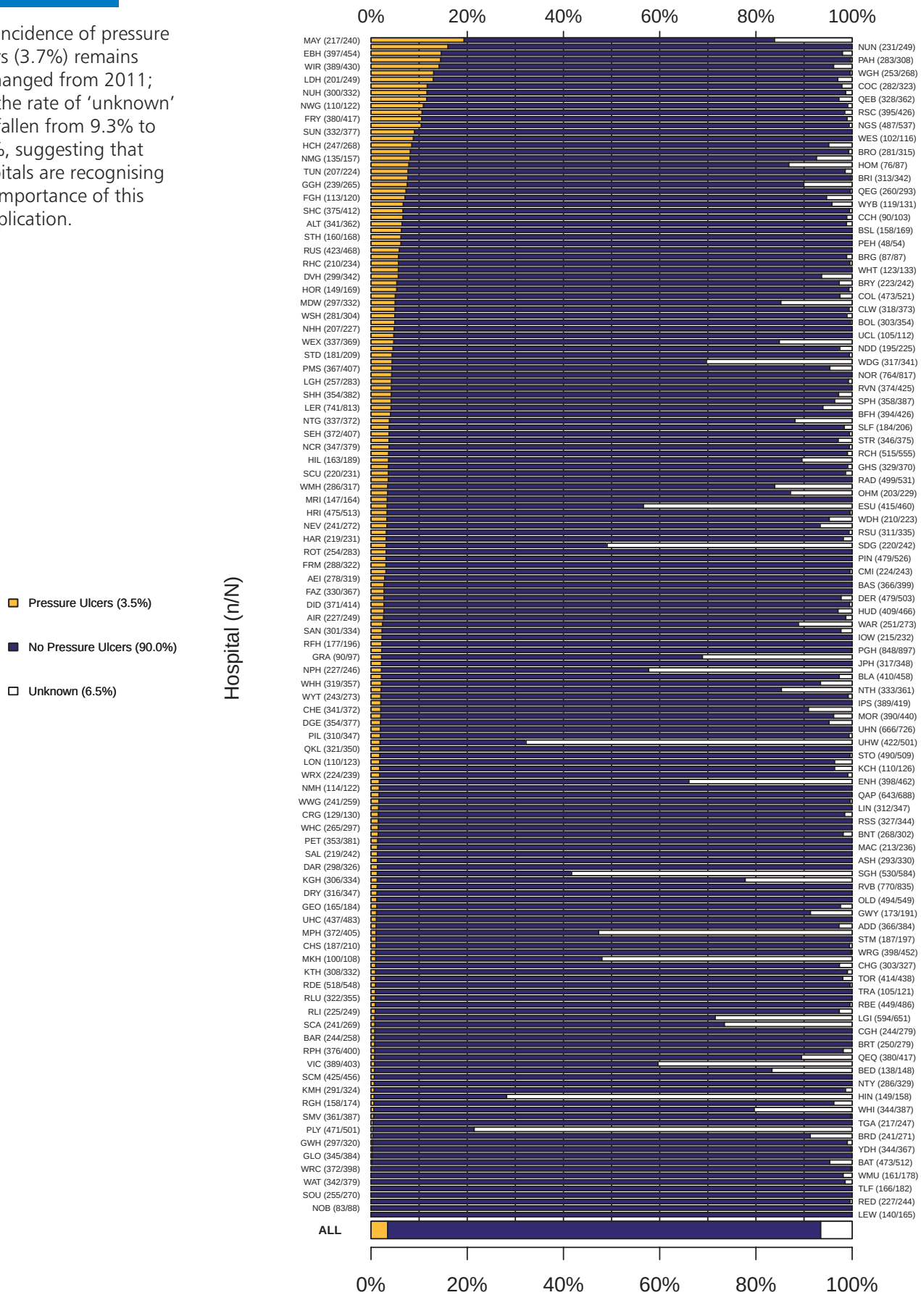
Chart 22 - Development of pressure ulcers (Blue Book Standard 3)

NICE CG 124

The incidence of pressure ulcers (3.7%) remains unchanged from 2011; but the rate of 'unknown' has fallen from 9.3% to 6.5%, suggesting that hospitals are recognising the importance of this complication.



Excludes patients who died in hospital

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In response to the challenge of BPT, the St Helier, Carshalton, trauma service established a 23-bed hip fracture unit with a full-time orthogeriatrician and junior medical staff. All patients come under the joint care of both orthogeriatric and orthopaedic teams throughout their acute stay. With the first two slots on the trauma list each morning reserved for hip fracture, average time to theatre has fallen to 24 hours. In the last 12 months 100% of patients have had preoperative, bone health and specialist falls assessment. Over two years pressure ulcer incidence fell from 17% to 6.2%. Mortality too has fallen: from 17% in Q1 2011/2012 to 7.4% in Q4. BPT attainment has risen from 0% over Q1-Q3 2010/2011 to 92% in Q4 2011/2012.

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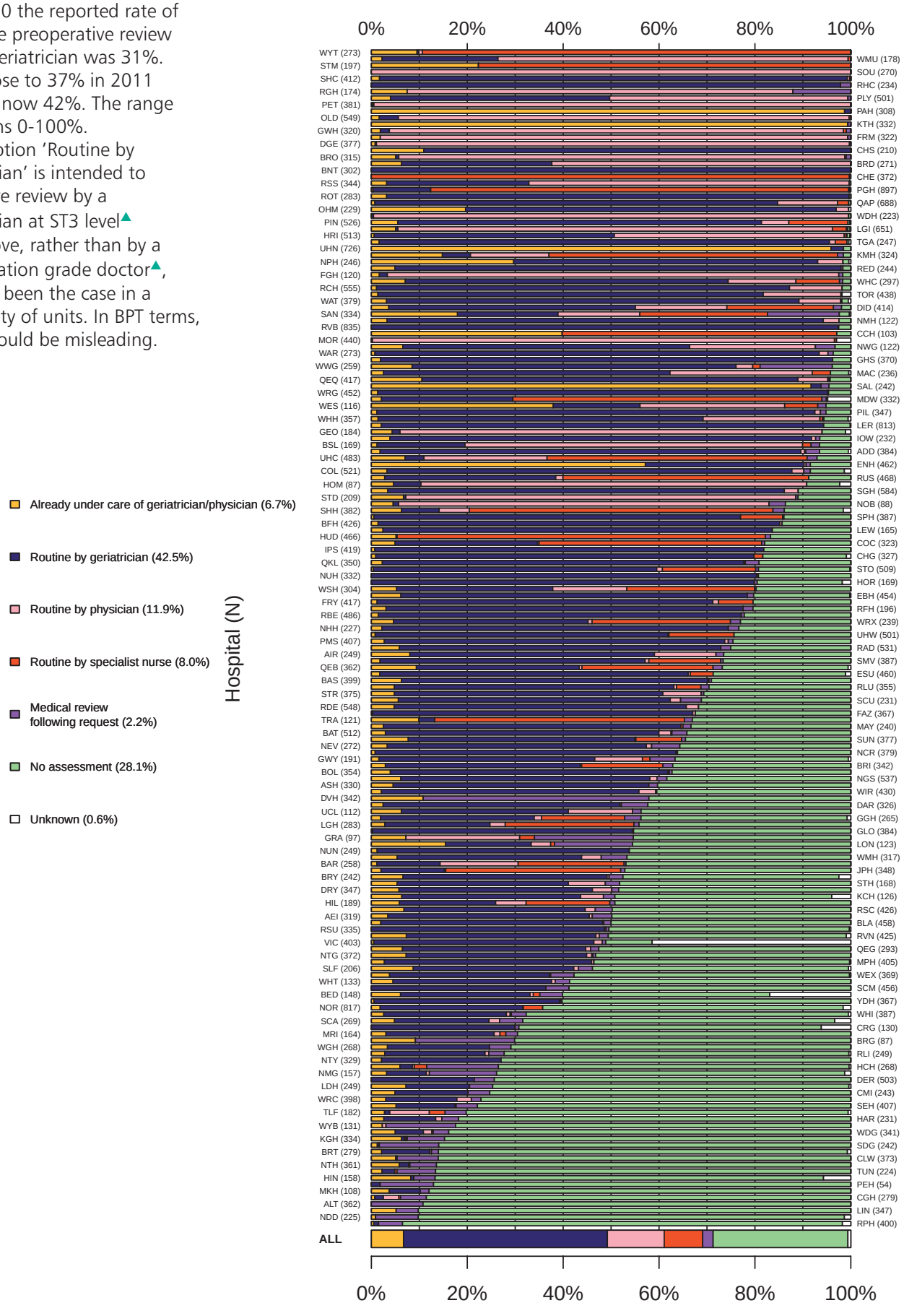
Chart 23 - Preoperative medical assessments (Blue Book Standard 4)

In 2010 the reported rate of routine preoperative review by a geriatrician was 31%. This rose to 37% in 2011 and is now 42%. The range remains 0-100%.
The option 'Routine by physician' is intended to capture review by a physician at ST3 level▲ or above, rather than by a foundation grade doctor▲, as has been the case in a minority of units. In BPT terms, this would be misleading.



Patients are included under the highest level of assessment which they received. Levels are plotted in the hierarchical order

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In Carmarthen a change programme initiated by orthopaedic surgeons, supported by management and led by an enthusiastic orthogeriatrician set up a 15-bed acute hip fracture unit - the first in Wales - in a former medical ward in June 2011. With a full-time orthogeriatrician supported by junior staff, a specialist trauma nurse, a fast-track A&E protocol, new procedures to ensure 7-day preoperative assessments, multidisciplinary teamwork, and routine cognitive assessment, falls assessment and osteoporosis assessment, care improved, with a 1% fall in mortality, and a reduction in average acute stay from 16 to 14 days. Improved training opportunities arose, with orthopaedic and medical juniors working well together, and effective team working resulting in improved morale.

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Chart 24 - Bone protection medication at admission

There has been no change in the proportion of patients admitted on bone protection since the 2011 Report.

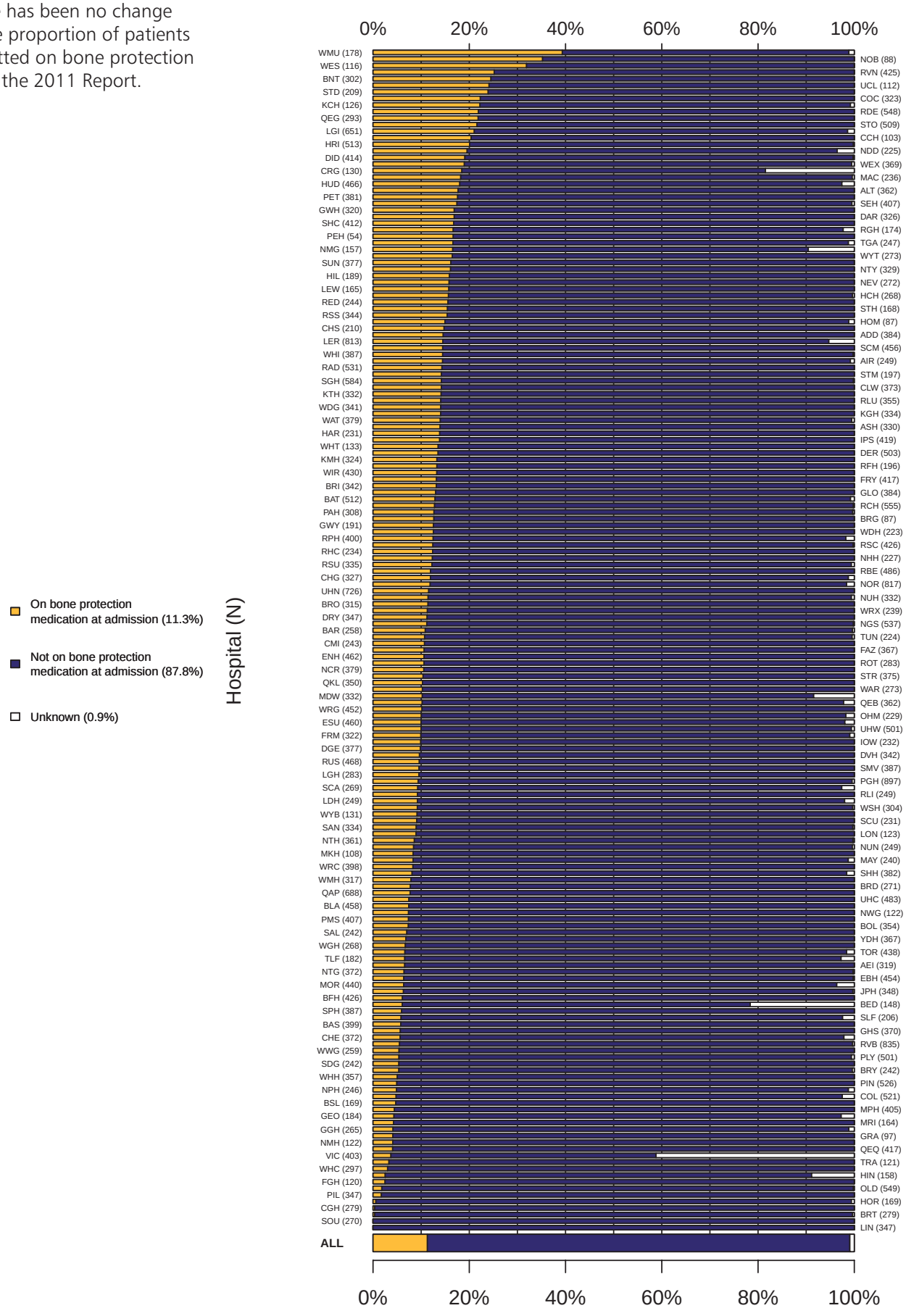

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Chart 25 - Bone health assessment and treatment at discharge
(Blue Book Standard 5)

94% of patients received assessment for bone protection, with medication where appropriate prescribed prior to discharge (up from 87%) This is likely to be a result of the stimulus of BPT.

Excludes patients who died in hospital

Patients are included under the highest level of bone health assesment which they received. Levels are plotted in the hierarchical order

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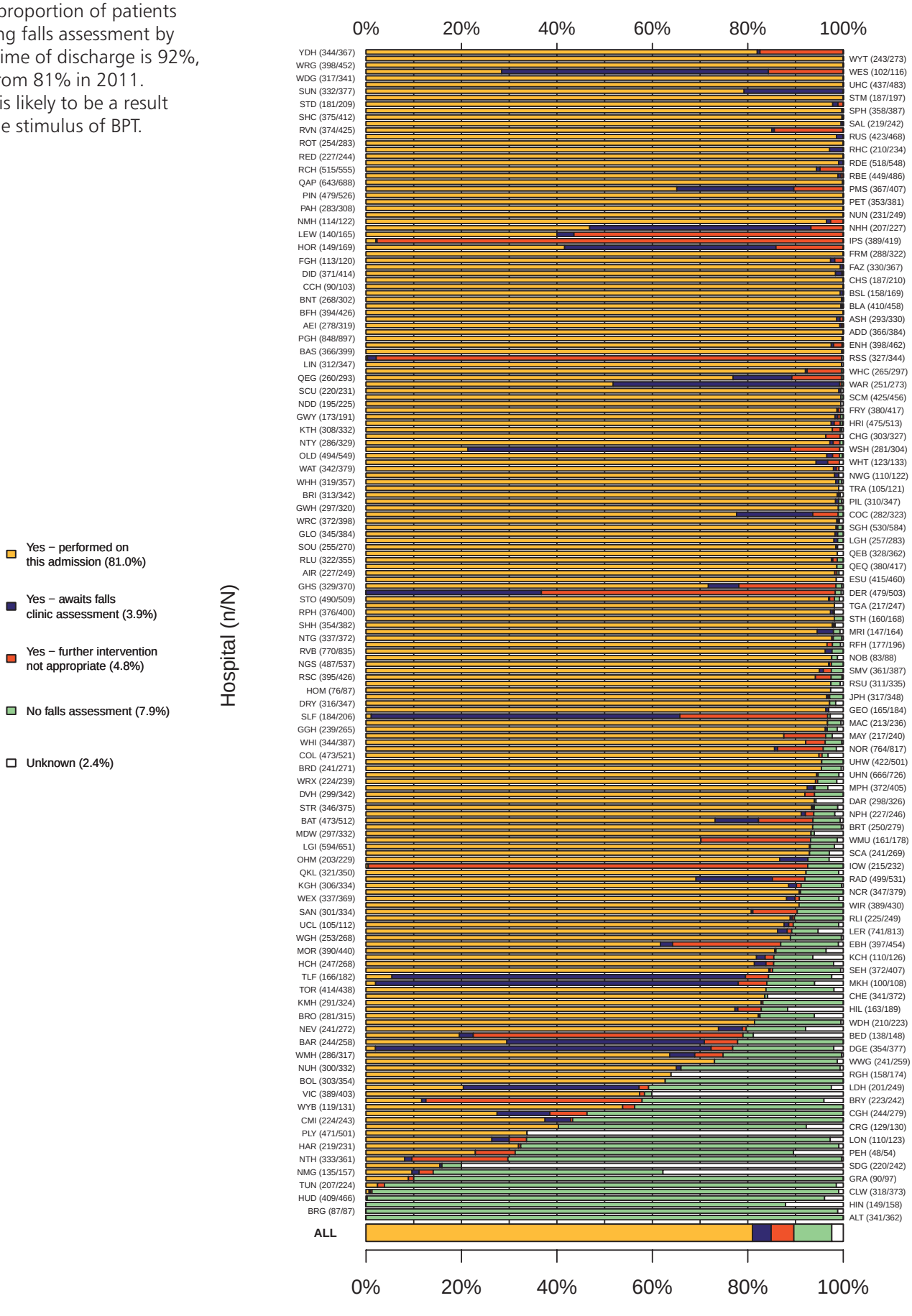
Chart 26 - Specialist falls assessment (Blue Book Standard 6)

The proportion of patients having falls assessment by the time of discharge is 92%, up from 81% in 2011. This is likely to be a result of the stimulus of BPT.



Excludes patients who died in hospital

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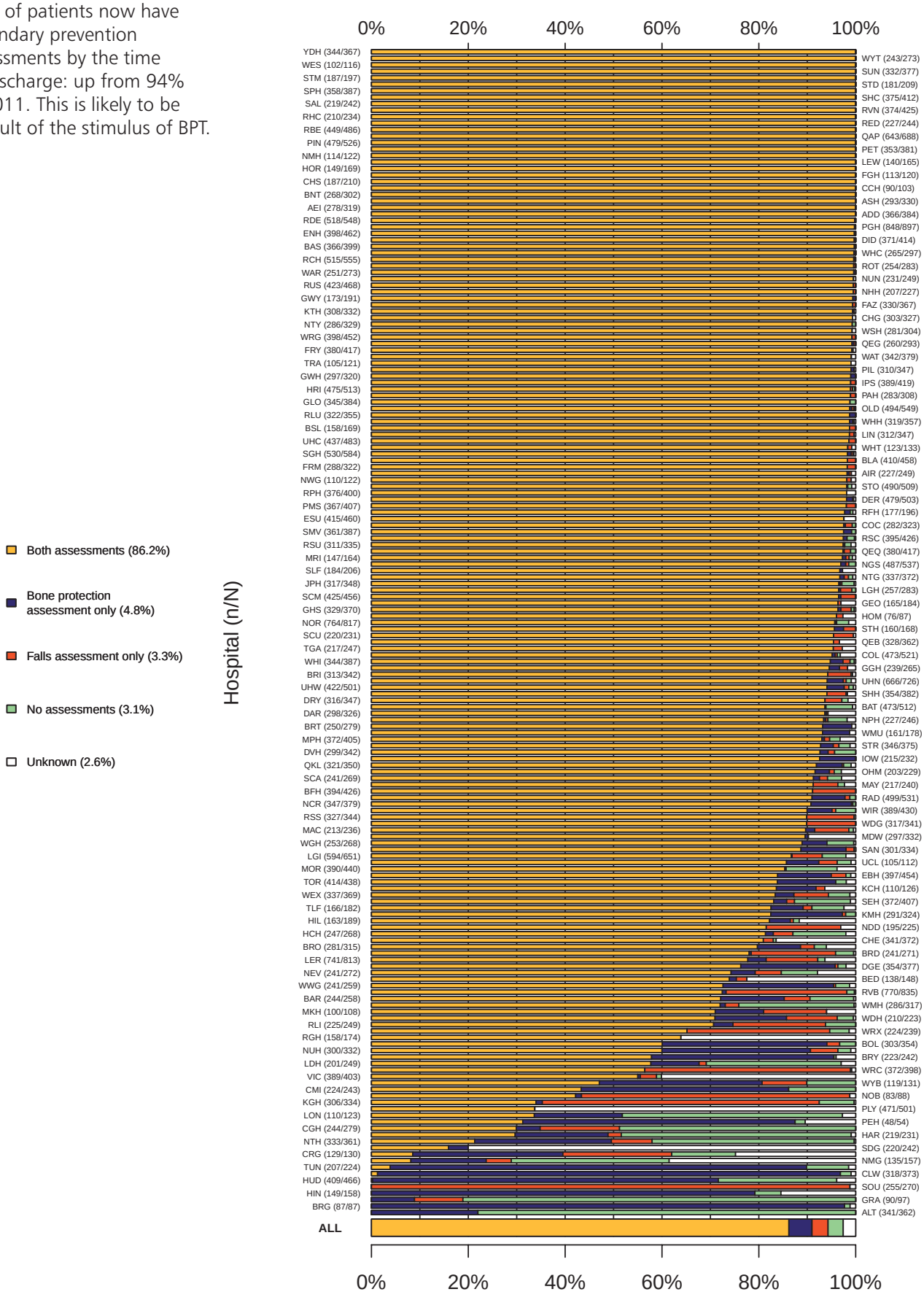
Chart 27 - Secondary prevention overview

97% of patients now have secondary prevention assessments by the time of discharge: up from 94% in 2011. This is likely to be a result of the stimulus of BPT.



Excludes patients who died in hospital.
'Unknown' includes any patients with one or more unknown assessment

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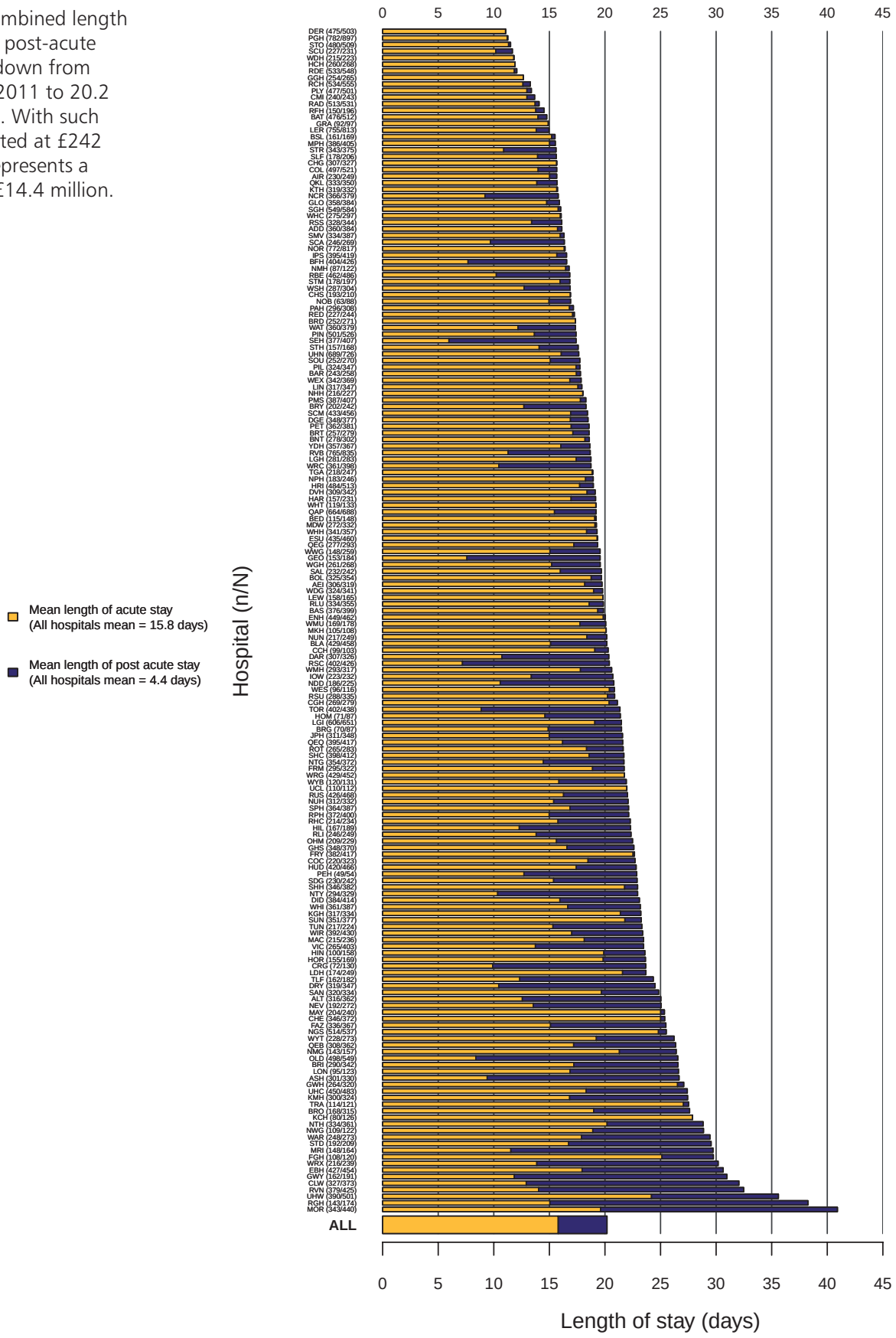
Chart 28 - Length of acute and post-acute Trust stay

The mean combined length of acute and post-acute Trust stay is down from 21.2days in 2011 to 20.2 in this report. With such bed days costed at £242 each[7], this represents a saving of c. £14.4 million.



Excludes patients discharged after 31/3/2012, with stays outside of range [0 days,365 days] and those with missing data for either of the phases.
For CHS and WRG acute stay is measured by Trust stay. CHS has no dedicated orthopaedic ward.
WRG's orthopaedic ward closed part way through the year.

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Recognising that a traditional model of hip fracture care was sub-optimal ("We were letting our patients down"), clinicians and managers at Pinderfields centralised trauma services and used NHFD data and the incentive of BPT to transform hip fracture care. With the introduction of a 36 bedded orthogeriatric ward – 24 specifically for hip fracture patients, new staff appointments, dedicated theatre time, a hip fracture pathway, preoperative optimisation by anaesthetists and the orthogeriatrician, a 'future breach analysis form' to address a target of 24-hour maximum pre-operative delay, and a hip fracture steering group to monitor progress, very substantial improvements in care and outcomes were achieved between April 2011 and March 2012.

The changes depended on many factors, including competency-based training, practice change, team-building sessions and additional equipment (such as sensor pads to reduce in-hospital falls.) Successive quarter-by-quarter improvements were achieved in BPT criteria compliance and in BPT achievement – with the latter rising from 37% to 73%. Mortality fell from 11% in 2010/11 to 7% in 2011/12, and acute length of stay from 19 to 10 days. Feedback on patient and visitor ward rounds is now 'excellent'.

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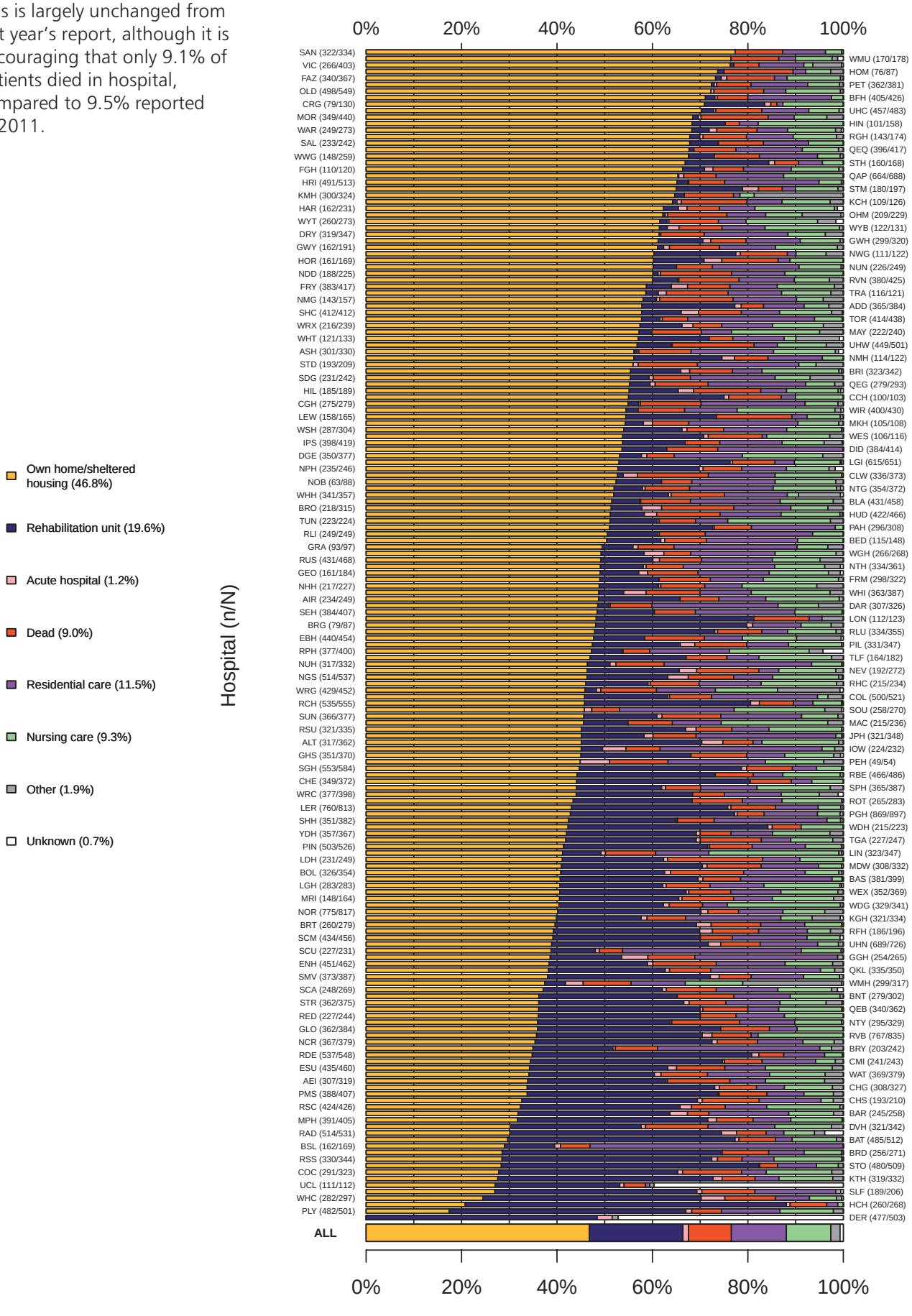
Chart 29 - Discharge destination from Trust

This is largely unchanged from last year's report, although it is encouraging that only 9.1% of patients died in hospital, compared to 9.5% reported in 2011.



Excludes patients discharged after 31/03/2012

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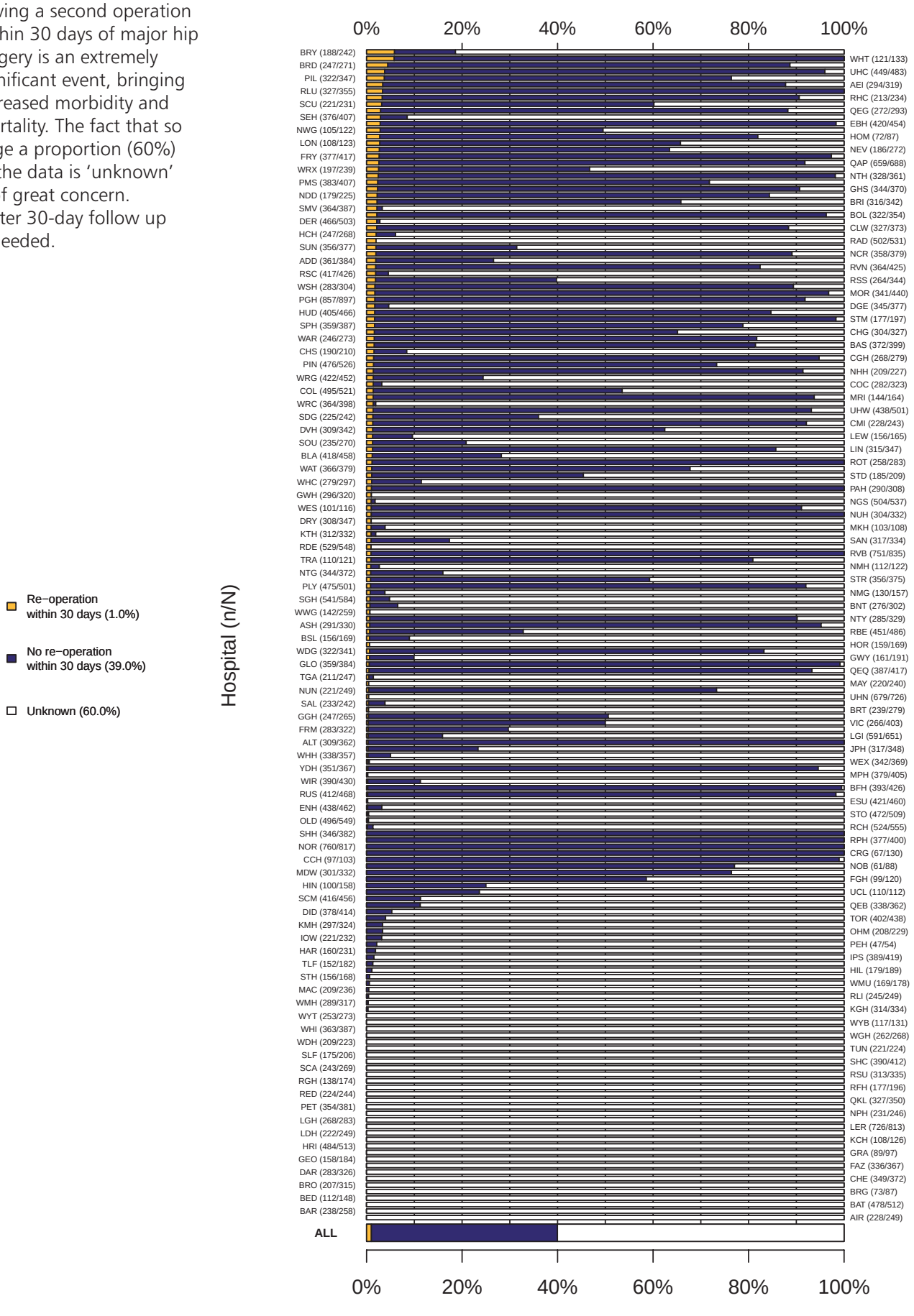
Chart 30 - Re-operation within 30 days

Having a second operation within 30 days of major hip surgery is an extremely significant event, bringing increased morbidity and mortality. The fact that so large a proportion (60%) of the data is 'unknown' is of great concern. Better 30-day follow up is needed.



Excludes patients who were not initially treated with surgery or were discharged after 31/03/2012

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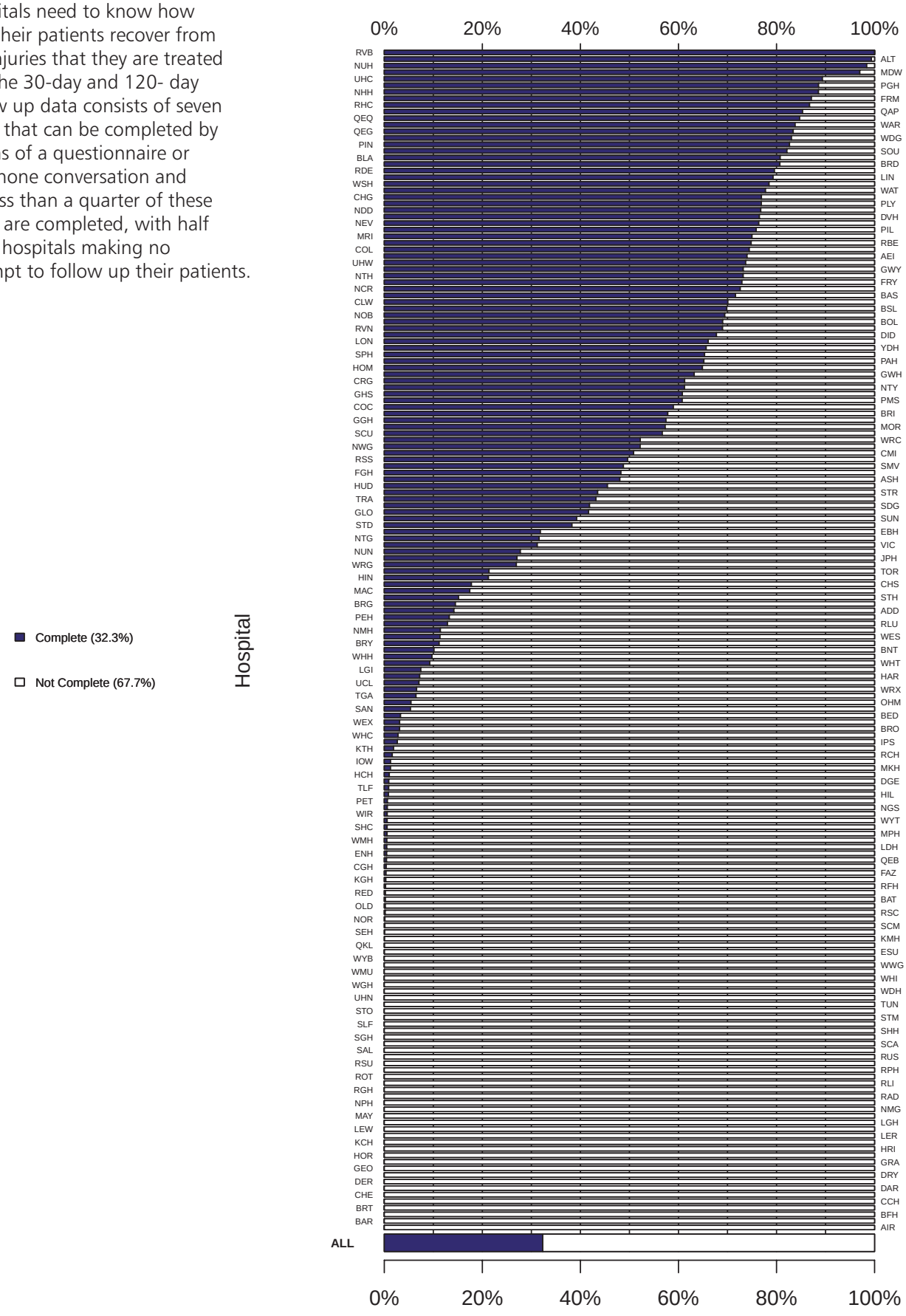
Chart 31 - Follow up data completeness at 30 days

Hospitals need to know how well their patients recover from the injuries that they are treated for. The 30-day and 120- day follow up data consists of seven fields that can be completed by means of a questionnaire or telephone conversation and yet less than a quarter of these fields are completed, with half of all hospitals making no attempt to follow up their patients.



Completeness of six variables collected at 30 days among patients recorded to be alive 30 days after admission

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RVH Belfast admits more than 900 hip fracture patients a year, and NHFD data is collected as part of a wider Fracture Outcomes Research Database, which now achieves 99% follow-up. Data is sourced from clinical records and the theatre management system. Telephone reviews at 30 days, four months and one year are undertaken by audit nurses, who contact nursing, residential and rehabilitation units directly and cross-check the remainder with hospital PAS data, GPs, patients and next of kin.

Systems queries have been created to highlight duplicates and missing data. A monthly review of all hip fracture X-rays ensures the accuracy of diagnosis and treatment coding. Data is then uploaded monthly to the NHFD. Although the Best Practice Tariff does not apply in Northern Ireland, NHFD participation is valued by clinicians, managers and commissioners as providing reliable information to support service evaluation and change, and to influence policy.

Royal Devon and Exeter Hospital has participated in the NHFD since 2008, and since then has implemented daily trauma meetings and a fast-track protocol to reduce time from A&E to orthopaedic care; recruited two trauma nurse practitioners and two orthogeriatricians; and introduced monthly multidisciplinary review meetings involving clinicians and managers. In the last four years inpatient mortality for hip fracture has fallen from 6% to 4%, and 28 day mortality from 13% to 7%.

In order to determine longer-term outcomes, telephone follow-up at 30, 120 and 360 days – carried out by a trauma nurse practitioner and a trauma ward administrator – has achieved over 99% completeness at all three intervals. Total time spent on telephone calls averages six hours per week. Outcomes documented include place of residence, mobility, and compliance with bone protection medication. Patients' concerns are addressed, and data on longer term outcomes provide a much more comprehensive picture of outcomes following hip fracture care.

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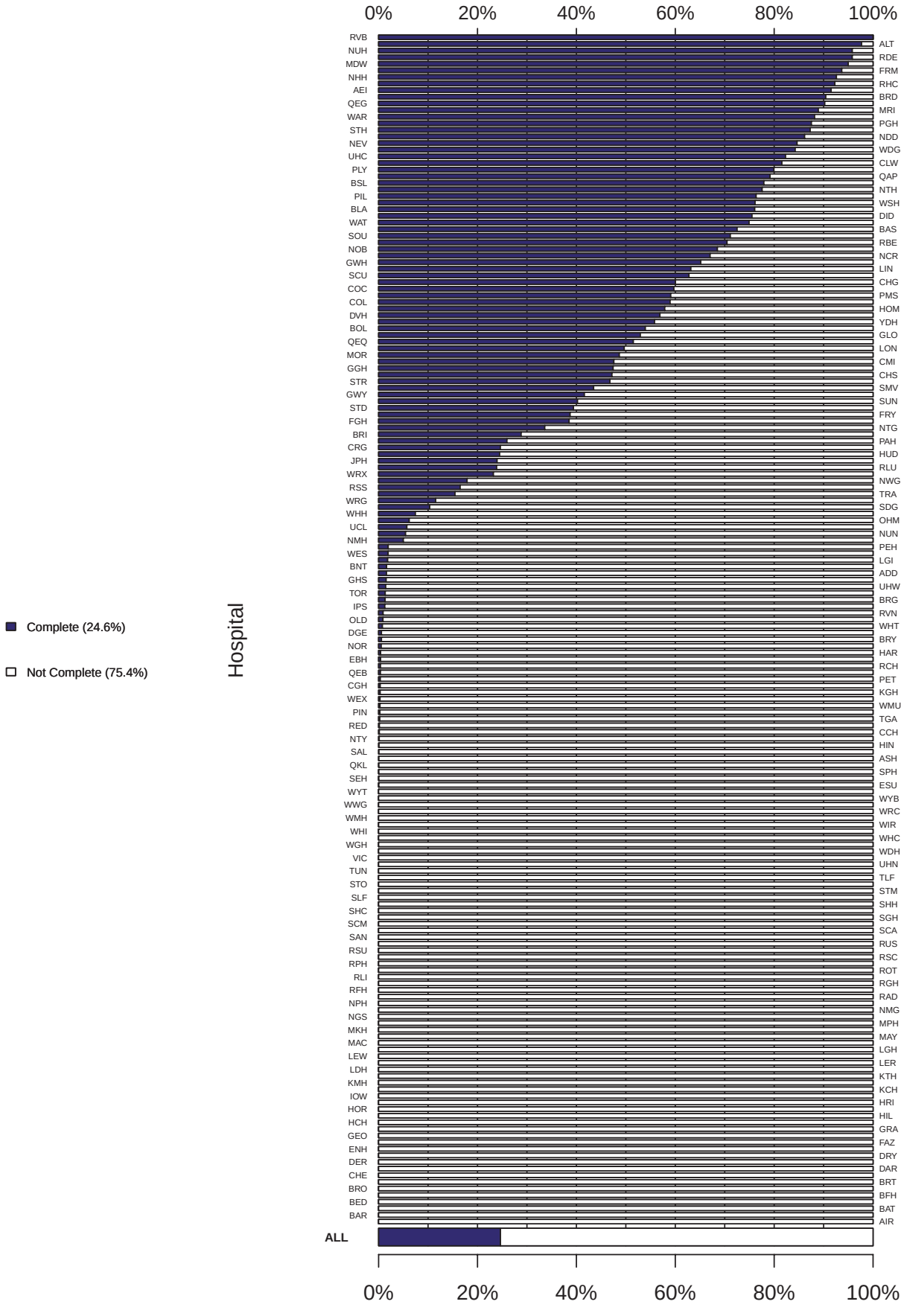
Chart 32 – Follow up data completeness at 120 days



Completeness of six variables collected at 120 days among patients recorded to be alive 120 days after admission

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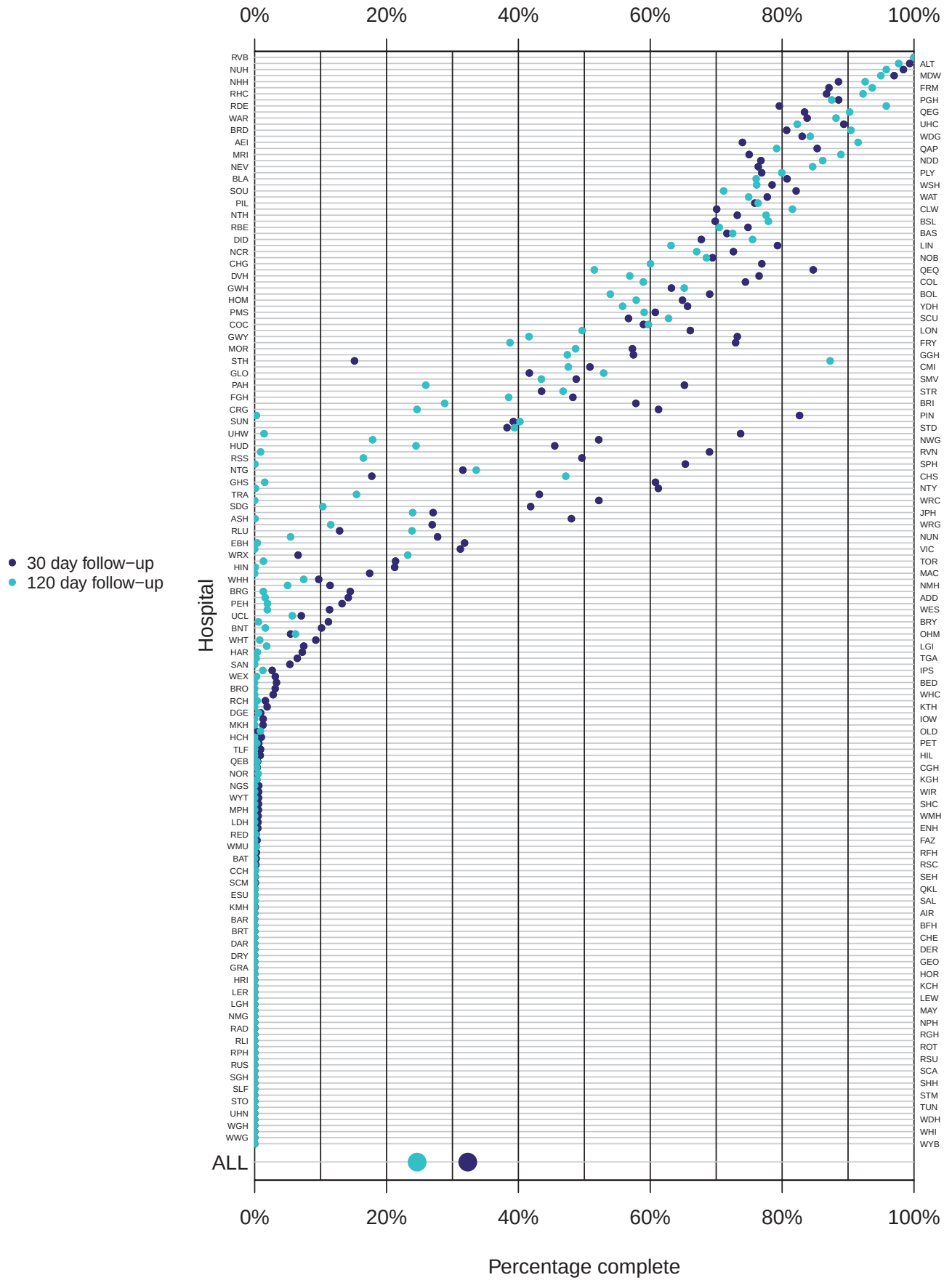
Chart 33 – Follow-up completeness at 30 and 120 days



Completeness of six variables collected at 30 and 120 days after admission among patients recorded to be alive on each day.

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At Basingstoke Hospital the approach to the collection of NHFD follow-up data developed over the first few years of NHFD participation. An initial plan was to collect data from patients attending a multidisciplinary follow-up clinic. Telephone follow-up – largely carried out by medical staff – was also explored, and some benefits noted (direct contact with patient and/or carer; ability to address wider concerns) but proved difficult because of the limited availability of time, and problems of scheduling the calls to the follow up intervals. Positive experience locally of postal follow-up after elective arthroplasty suggested a switch to postal questionnaires with pre-paid reply envelopes. Daily checks on the NHFD website for patients reaching follow-up points, and checks with hospital PMS to ensure patients are no longer in-patients and remain alive, precede the dispatch of the postal questionnaire. Where patients raise issues, either through additional comments on the form or on an accompanying letter, a telephone call and/or a multidisciplinary clinic review may follow. Only nine of the initial 115 patients were lost to follow-up at 120 days, and data – particularly that relating to mobility – has been encouraging: with a substantial decrease in patients requiring two walking aids between the 30- and 120-day follow-ups.

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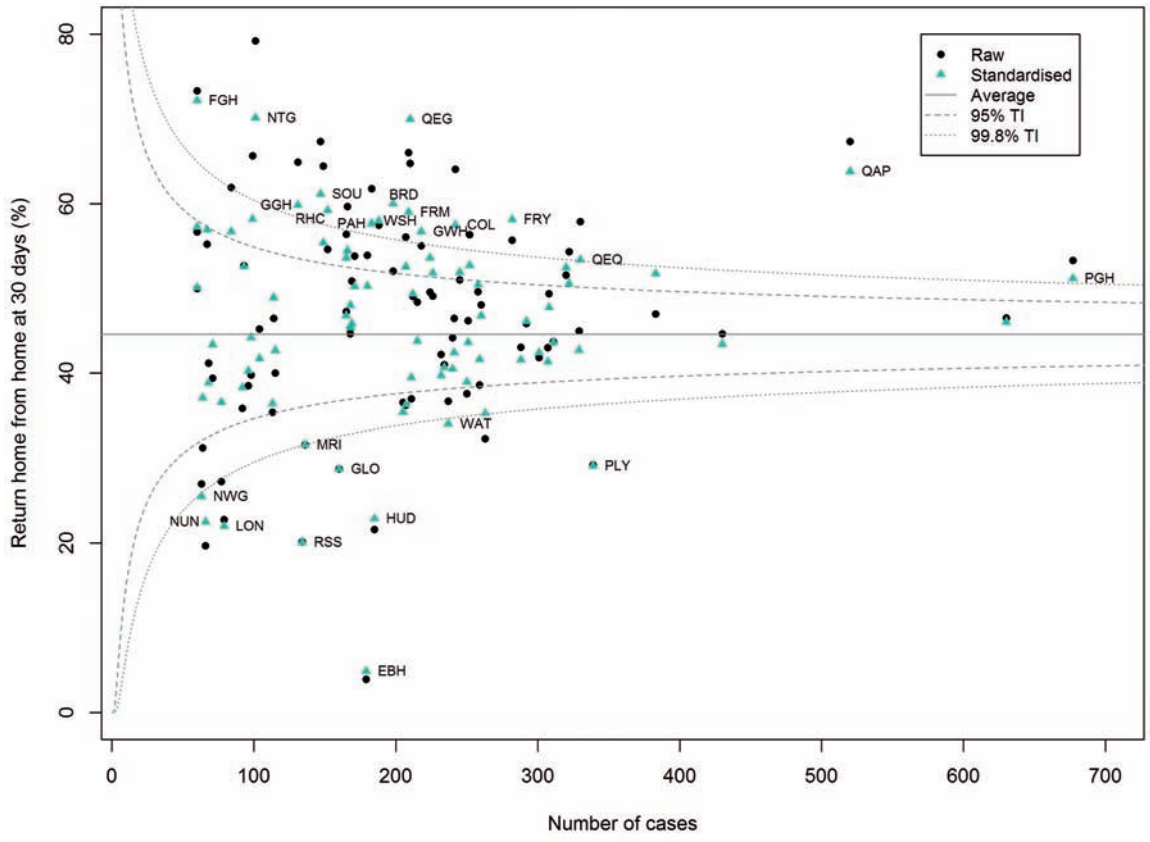
Casemix adjusted outcomes:

Funnel plot for return home from home at 30 days



Results: Return home from home at 30 days

For patients, a safe and early return home following hip fracture is a major priority. This analysis shows from the available data the rate of return home by 30 days of patients admitted from home or sheltered housing. However, since only 74.8% of patients are admitted from home or sheltered housing, since the overall completeness of follow-up-up data at 30 days is only 56.2%, and since hospitals submitting fewer than 60 eligible cases were excluded, only 17,374 cases are included in this plot.

Please see Appendix B for a list of excluded hospitals.

The overall rate of return home by 30 days is 44.6%. The three most important predictors of return home are walking ability, age, and ASA grade – which provide the basis for the casemix standardisation shown here.

Other determinants of rate of return home are clearly complex, and include: the effectiveness of early rehabilitation; the availability of community rehabilitation, and the provision of specialist early supported discharge schemes – all of which clearly vary greatly across the country. There is also evidence that ready access to downstream beds may result in longer overall acute hospital stay, and hence lower rate of return home by 30 days. Together, these factors may account for the high degree of variance displayed here. That variance, together with the poor completeness of 30 day follow-up data, suggests a cautious approach to the interpretation of this plot.

NHS superspell data, which is likely to appear in the 2012 Supplementary Report, should further clarify matters.

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St Peter's Hospital began NHFD participation in 2009. In order to meet NHFD clinical standards, the trust appointed two orthogeriatricians in early 2010. Although some aspects of care improved, preoperative delay beyond 36 hours remained common; and in the first quarter of BPT implementation only 49% of patients achieved BPT standards. The Trust invested in a 4-day EQIP (Efficiency, Quality, Improvement and Productivity) initiative on the hip fracture pathway in September 2010. Analysis of NHFD data showed longest delays occurring during or just after the weekend. To address this, and all-day Saturday list was split into two half-day weekend lists. Since November 2010, 60% of patients have surgery within 24 hours, and 80% within 36 hours. Time to orthopaedic ward admission was also reduced: by the introduction of a priority hip fracture bleep; and by eliminating delays in obtaining air mattresses from central stores by the provision of a ready-use on-ward mattress. Weekend physiotherapy and a hip fracture exercise class improved mobilisation within 24 hours of surgery. Length of stay dropped from 25 to 22 days – with considerable efficiency savings. Importantly, discharge to original residence has improved: to 60% within 25 days now, compared with 44% within 30 days two years ago.

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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 Best Practice Tariff (BPT) initiative, which applies only in England. BPT offers additional payment for cases the care of which meets agreed standards (surgery within 36 hours; care by surgeon and geriatrician; care protocol agreed by geriatrician, surgeon and anaesthetist; pre/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 2012 participation has increased steadily quarter by quarter: with ever-rising numbers of hospitals taking part; of cases submitted; and of cases meeting the tariff standards.

2010/11	Eligible hospitals	Hospitals achieving BPT	Number of pts submitted	Number of pts achieving BPT	Range
Qtr 1	162	92(57%)	9,455	2,303(24%)	2 – 81%
Qtr 2	165	105(64%)	11,839	3,328(28%)	2 – 74%
Qtr 3	163	111(68%)	13,136	4,502(34%)	1 – 83%
Qtr 4	167	118(71%)	12,680	4,671(37%)	1 – 86%
2011/12					
Qtr 1	170	131(77%)	13,070	5,210(40%)	1 – 88%
Qtr 2	166	133(80%)	13,221	6,170(47%)	1 - 89%
Qtr 3	166	138(82%)	14,116	7,193(51%)	2 – 88%
Qtr 4	168	147(87%)	14,046	7,654(55%)	2 – 95%

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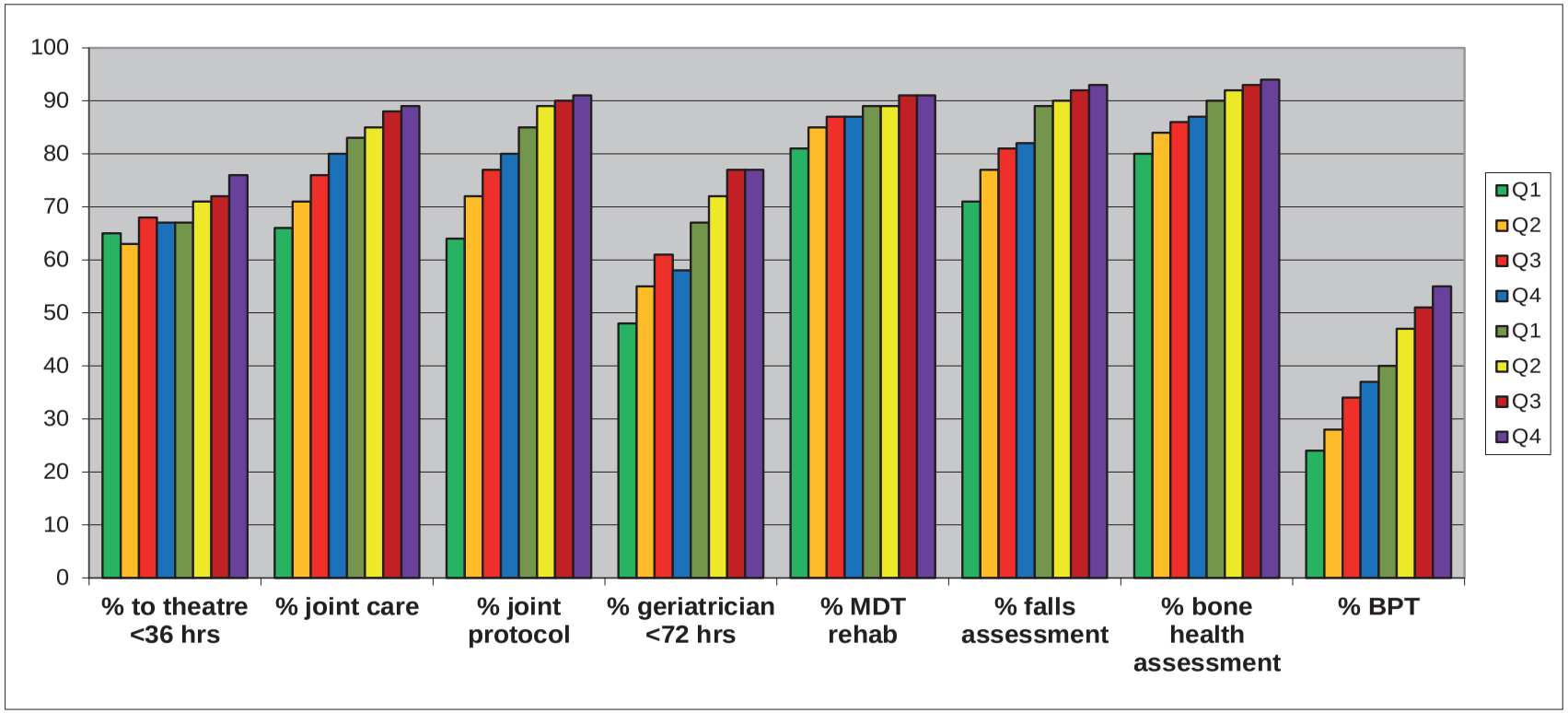
Quarter by quarter BPT criteria compliance and BPT achievement: 2010/2011



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At a 'grand round-table' meeting in May 2011, hip fracture care at Chelsea and Westminster was recognised as sub-optimal. This marked the beginning of a sustained and successful effort to improve patient care and also to respond to the incentives offered by the Best Practice Tariff. Resultant changes included dedicated theatre sessions for trauma, regular thrice-weekly orthogeriatrician rounds, weekly discharge planning meetings, and a weekly osteoporosis ward round. An agreed assessment pro forma was introduced, and is now completed for 100% of patients; and the Electronic Patient Record now documents collaborative care. BPT achievement has risen from <10% to >60%, attracting additional income of over £127,000; and average acute length of stay has fallen from 24 to 19.5 days, with estimated savings of £91,000. In-patient mortality has fallen from 11% to 9%, and feedback from staff, patients and carers is now favourable.

Queen Alexandra Hospital, Portsmouth, has participated in the NHFD since its launch in 2007, and has used data to highlight service issues and improve care over the years. The 2011 NHFD National Report showed how QAP performed better than national and/or SHA averages in terms of: time to admission to orthopaedic care; preoperative geriatrician assessment; operation within 36 and 48 hours; and falls and bone health assessment. It also performed well in terms of discharge to previous residence (70%, compared with a national average of 46%). Notably, in the 2011 NHFD Report, at 78% it ranked first in BPT achievement.

This year, 99.5% of patients were assessed by an orthogeriatrician within 72 hours and 79.7% of patients had surgery within 36 hours. BPT achievement too has risen, to 79.7%.

Resulting BPT monies to the Trust amounted to £227,000 for 2010/11, and £488,000 for 2011/12.

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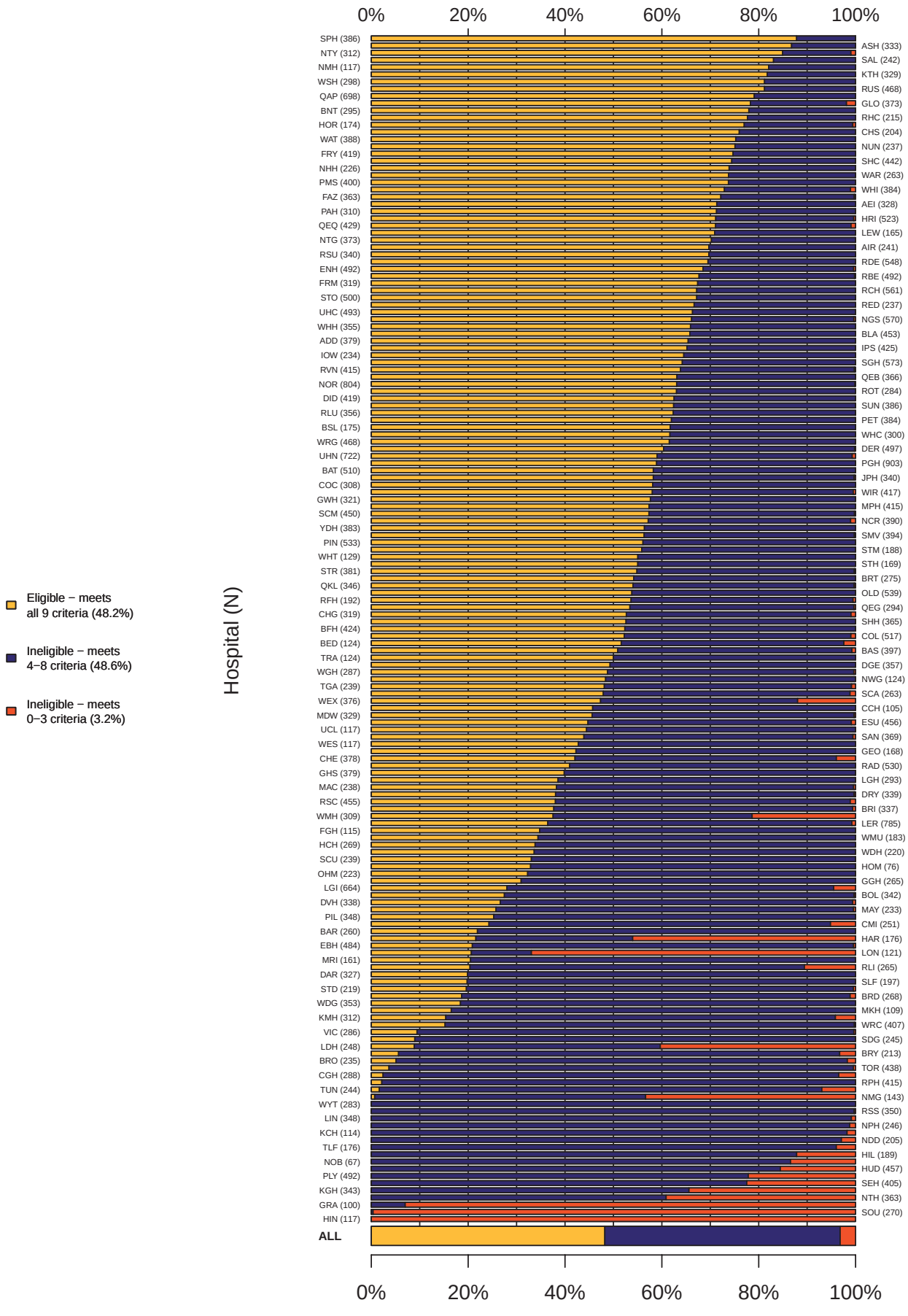
Chart 34 – BPT uplift eligibility (England only)



Only includes hospitals in England

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East Lancashire Hospitals NHS Trust first participated in the NHFD in February 2010. Since then clinicians and managers have found NHFD data invaluable in assisting the clinical team to monitor and improve the quality of care for hip fracture patients. The introduction of an integrated care pathway, together with close scrutiny of delays exceeding 48 hours and the appointment of an orthogeriatrician, helped greatly in achieving Best Practice Tariff standards in hip fracture care – which rose from 15.6% of cases in 2010/2011 to 65.3% in 2011/2012. In addition, the incidence of pressure ulcers fell from 5.9% in July 2010 to 2.4% now.

All this was achieved by the regular sharing of NHFD data with the team, focused efforts on problem areas the data highlighted, and thus improving compliance with the six Blue Book standards of care. A bid for funding for an East Lancashire Fracture Liaison Service has recently succeeded in securing re-enablement monies, with plans now to commence this service within the next six months.

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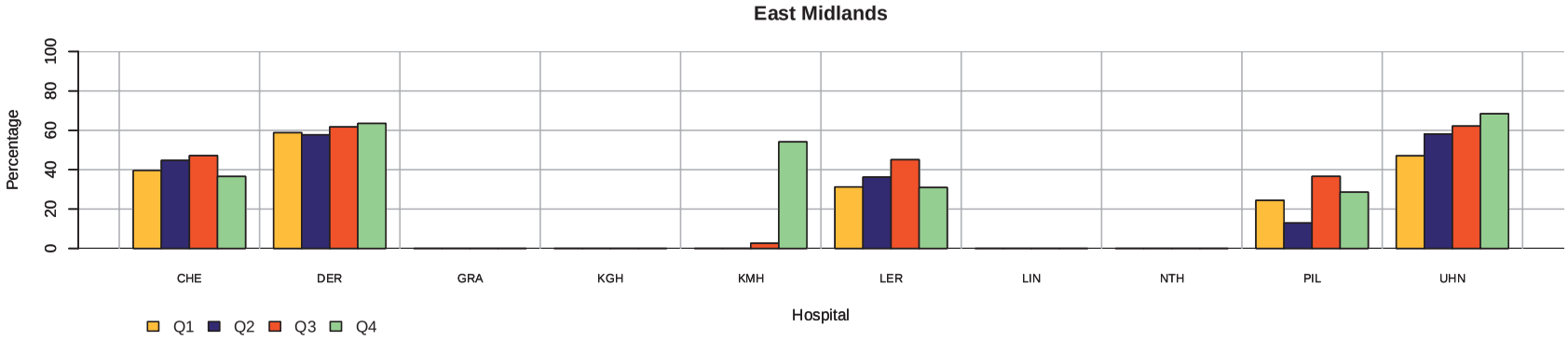
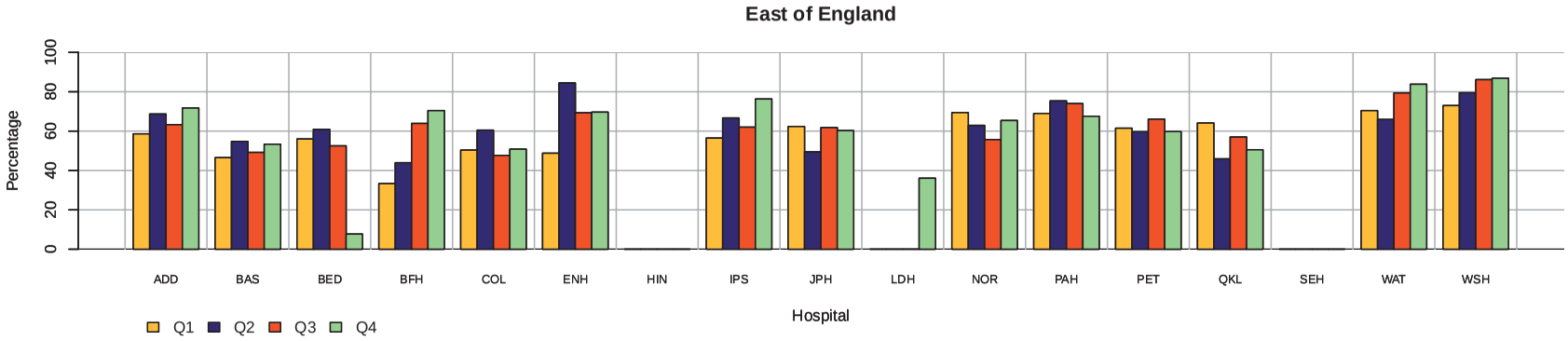
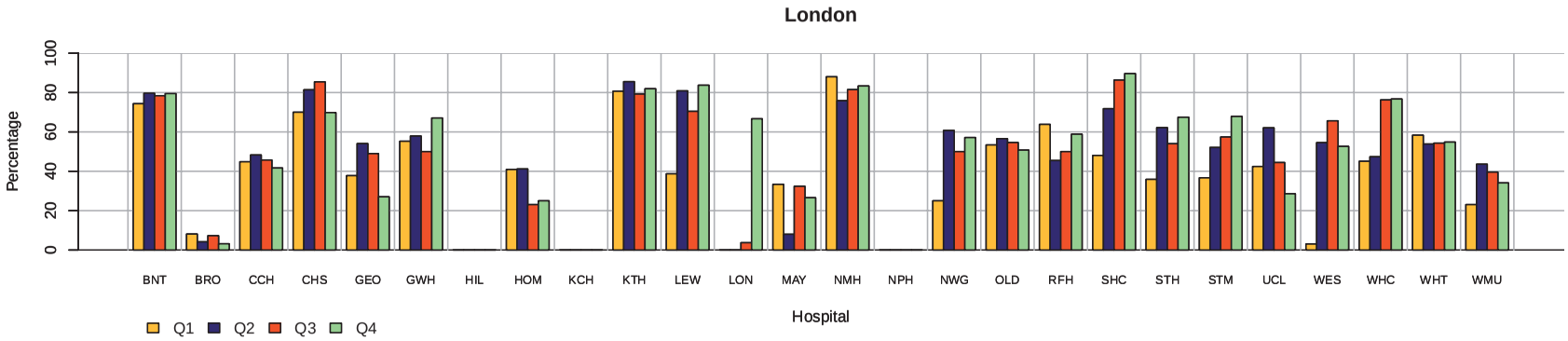
Best Practice Tariff - achievement by SHA







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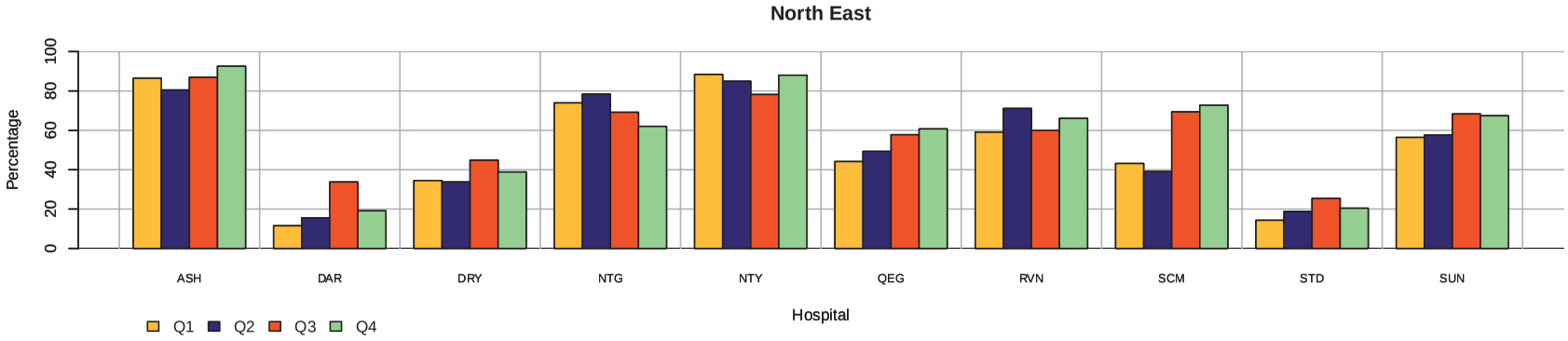

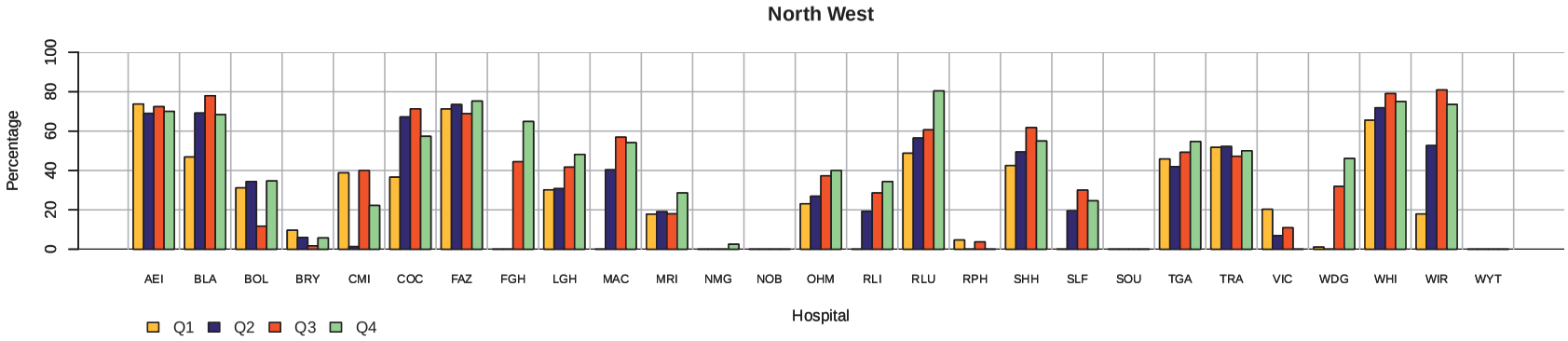

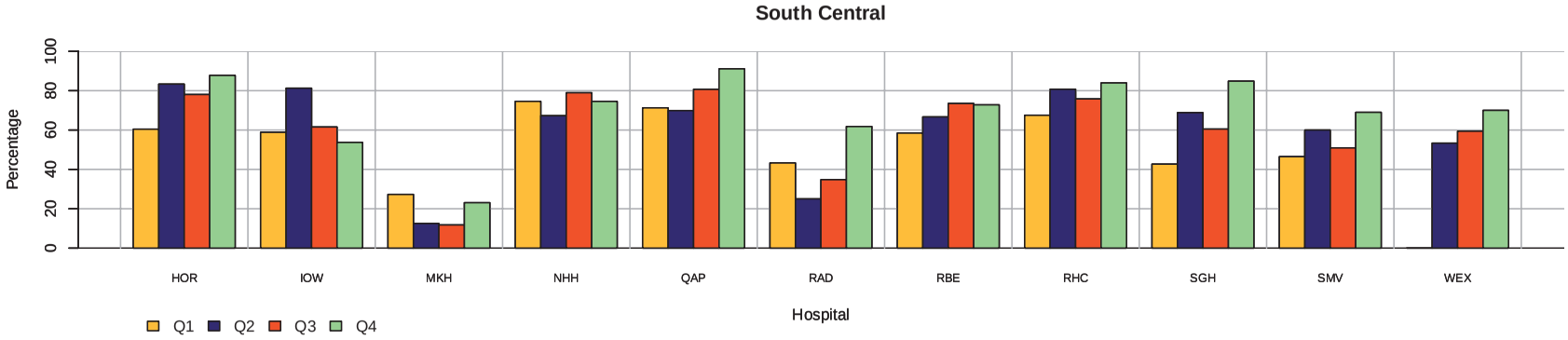

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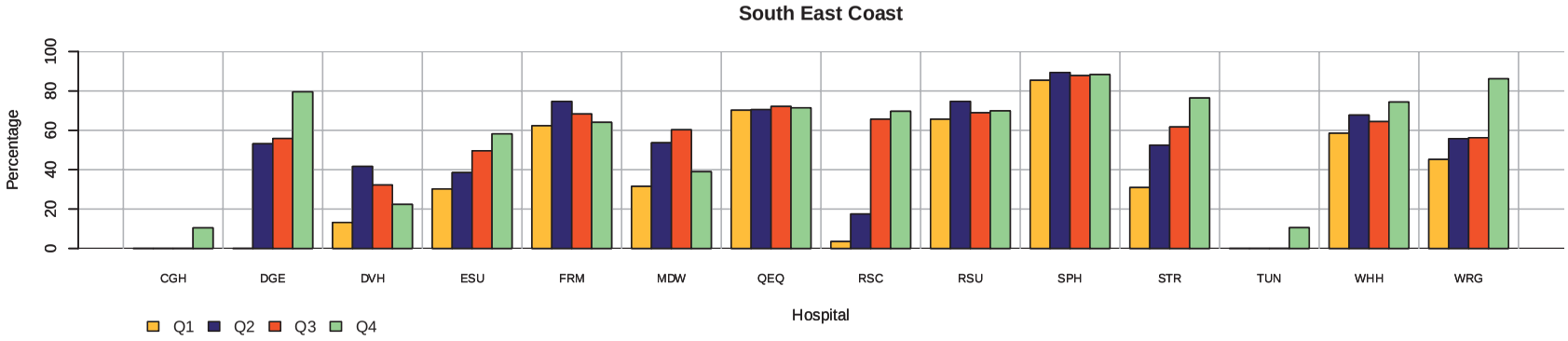

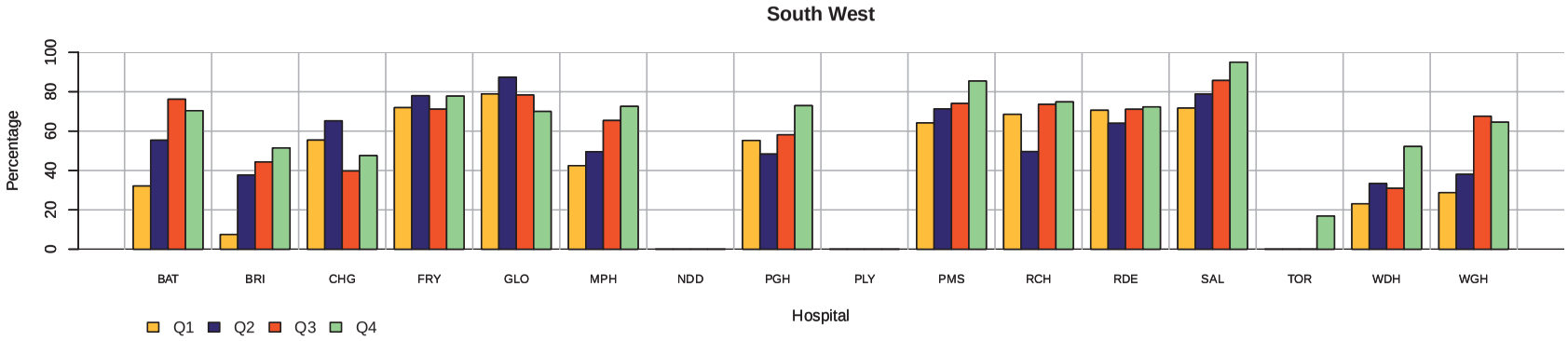

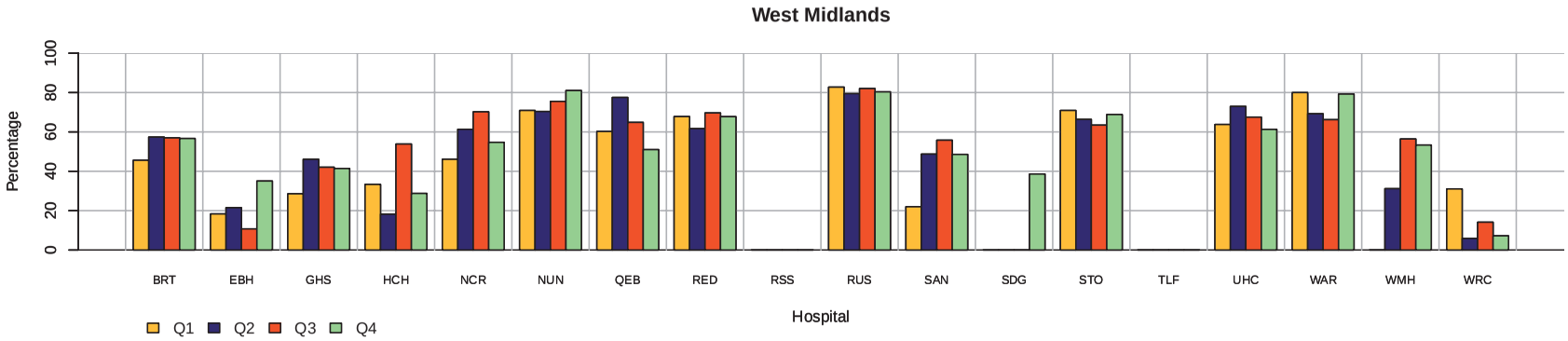

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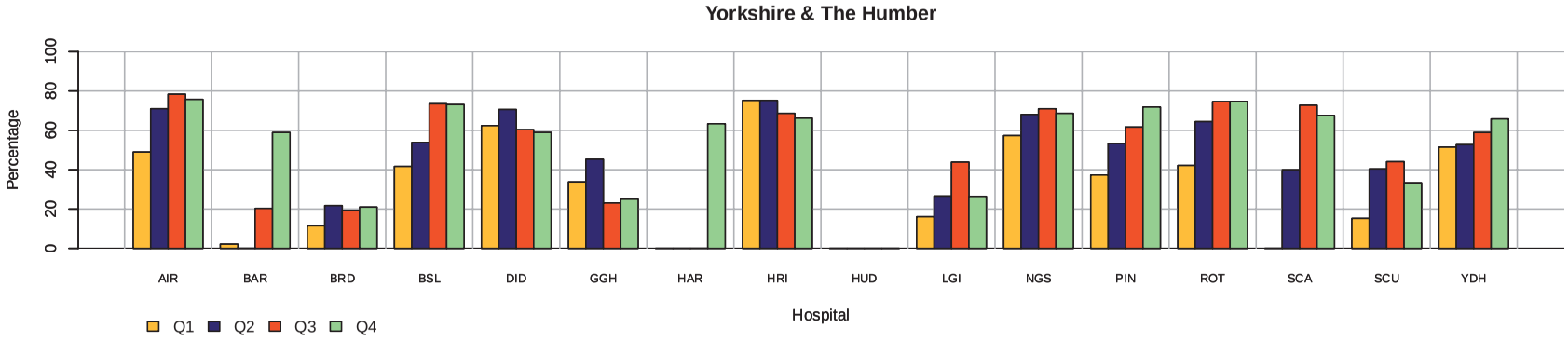

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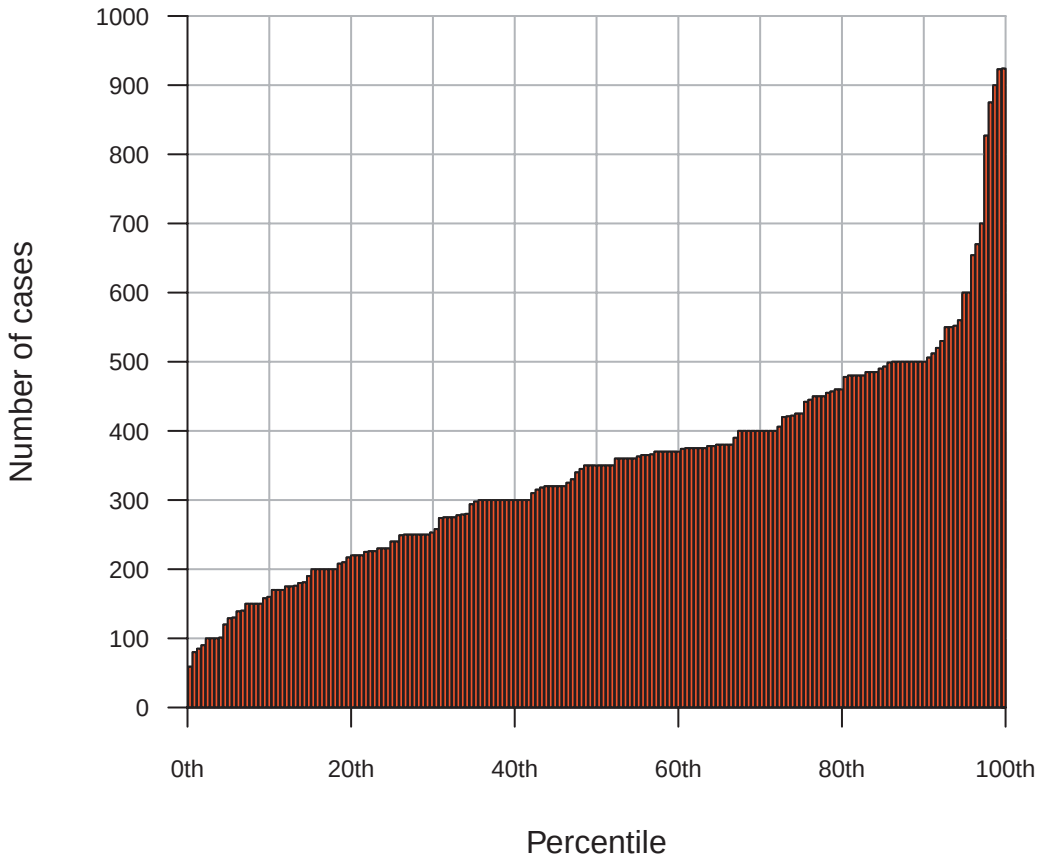
Facilities Audit

To understand care of patients with hip fractures in individual hospitals, it is helpful to have data on the facilities that are available locally. Each year the NHFD requests details of the population the hospital serves and number of hip fracture patients treated; and also on staffing levels, details concerning the number of orthogeriatric ward rounds, and arrangements for secondary prevention of fractures. Details of how the NHFD data is collected are also requested.

This data helps to make comparisons between hospitals fairer. Case ascertainment should be based on the number of cases reported to NHFD in relation to the number of cases admitted (the latter often reported in terms of numbers the previous year). However, some hospitals show wild fluctuations in their estimated case load. This, together with its impact on estimated national figures – has created difficulties currently being addressed by work commissioned to link NHFD and HES data, with a view to providing more robust denominators at both hospital and national level.

Despite current limitations, the overall catchment areas and hip fracture numbers are virtually unchanged from last year, although four fifths of hospitals now consider themselves to be District General Hospitals, compared with three quarters in 2011. The remainder have some tertiary role.

Number of hip fractures treated each year by unit



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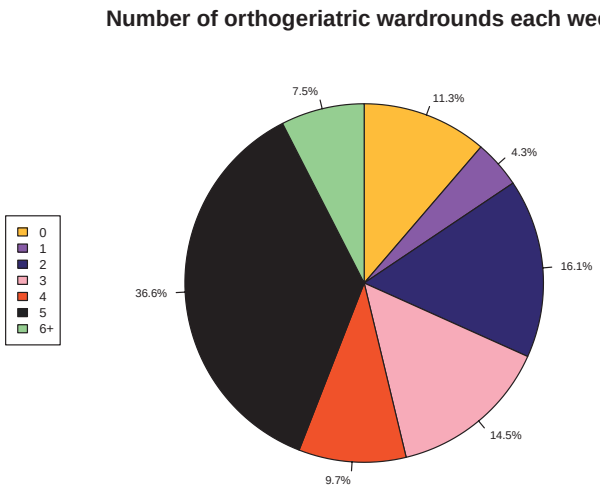
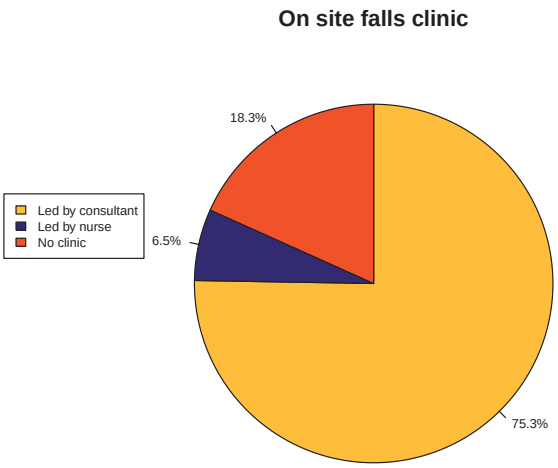
Facilities Audit Chart 1

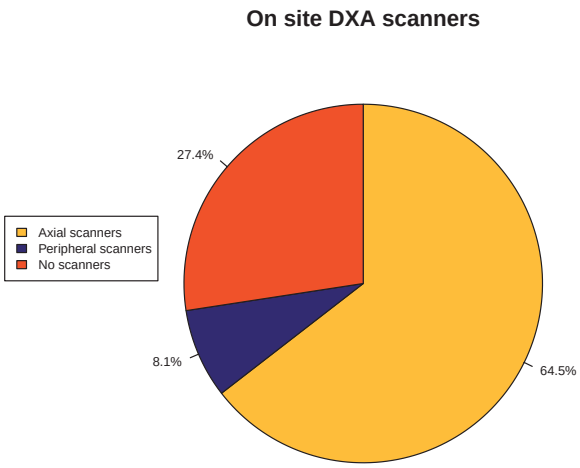


There has been an impressive improvement in orthogeriatric provision, with the percentage of hospitals having no orthogeriatric ward rounds falling from 14.2% in 2011 to 11.3%, while 44.1% have five or more ward rounds a week (compared with 31.8% in 2011).

Facilities Audit Chart 2



Facilities Audit Chart 3



There has been a marginal increase in the provision of on-site Falls Clinics and DXA scanning compared with 2011.

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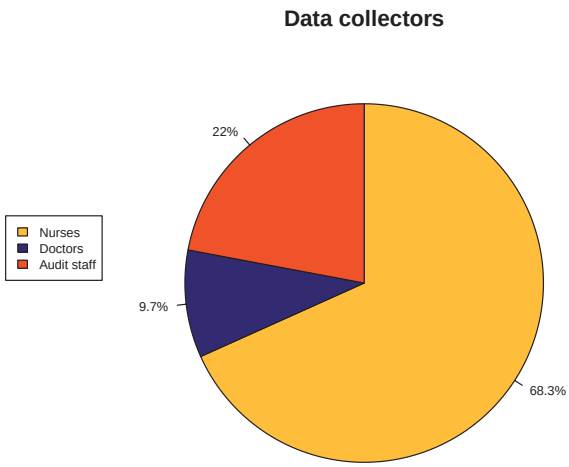
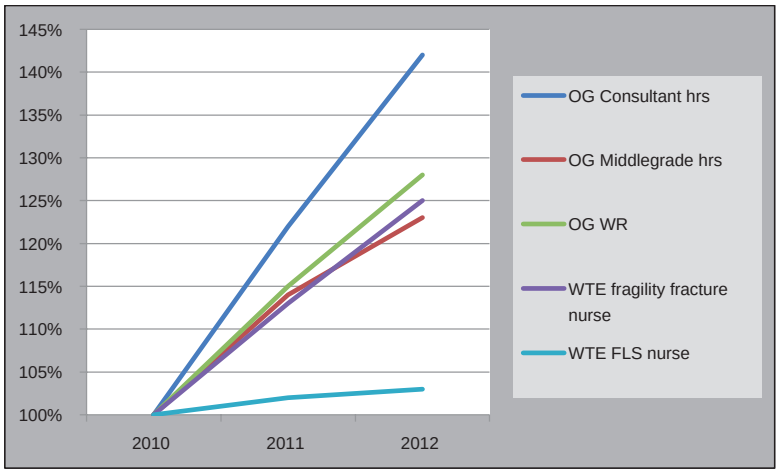
Facilities Audit Chart 4



Trends in the staffing of units

One hundred and fourteen hospitals have contributed a Facilities Audit to the Report for each of the last three years. Taking the average figure for 2010 as the baseline there has been an improvement in the provision of both consultant and middle-grade orthogeriatricians, with an associated substantial increase in the number of ward rounds undertaken. While fragility fracture nurse hours have increased there has been no change in the provision of fracture liaison nurses.



The marked rise over three years in orthogeriatrician staffing is particularly striking. Promoting collaborative care through the involvement of orthogeriatricians was identified from the earliest stages of the development of the NHFD as vital to improving hip fracture care: pre-operatively, in order to minimise unnecessary delay to surgery, post-operatively in identifying medical complications early and treating them effectively; and in leading early multi-disciplinary rehabilitation directed at promoting patients' mobility and self-care. It is therefore a matter of concern that many units have not yet achieved collaborative care through adequate orthogeriatrician staff.

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Strategic Health Authority summary tables

Channel Islands

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)	% Falls assessment (BB Std 5)	% Bone health medication 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)
Princess Elizabeth Hospital, Guernsey	PEH	59	54	91.5	85.6	81.5	68.6	1.9	6.2	34.9	79.2	12.7 (11.6)	10.1 (13.4)	22.9 (16.1)
Channel Islands		59	54	91.5	85.6	81.5	68.6	1.9	6.2	34.9	87.8	12.7 (11.6)	10.1 (13.4)	22.9 (16.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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)
Chesterfield Royal Hospital	CHE	226	372	164.6	88.9	52.6	81.4	0.0	2.3	99.3	82.9	25.2 (20.3)	0.2 (3.3)	25.4 (20.4)
Royal Derby Hospital	DER	520	503	96.7	89.6	75.0	94.4	21.5	2.8	98.7	82.9	11.1 (9.0)	0.0 (0.0)	11.1 (9.0)
Grantham and District Hospital	GRA	120	97	80.8	88.8	73.2	72.8	7.2	3.2	10.0	7.8	14.9 (12.0)	0.0 (0.0)	14.9 (12.0)
Kettering General Hospital	KGH	345	334	96.8	89.5	73.6	86.5	6.9	1.7	91.5	33.7	21.4 (20.0)	1.8 (9.6)	23.2 (21.7)
King's Mill Hospital, Sutton in Ashfield	KMH	450	324	72.0	93.8	77.3	81.9	20.7	0.7	83.2	96.6	16.8 (14.7)	10.6 (19.6)	27.4 (23.5)
Leicester Royal Infirmary	LER	900	813	90.3	91.4	37.7	88.0	94.5	4.5	94.2	81.6	13.8 (10.0)	1.1 (5.8)	15.0 (11.1)
Lincoln County Hospital	LIN	390	347	89.0	93.1	75.4	84.2	5.2	1.6	100.0	99.0	17.6 (12.0)	0.3 (2.5)	17.9 (12.2)
Northampton General Hospital	NTH	366	361	98.6	92.0	14.2	77.6	7.8	2.5	29.8	49.7	20.3 (16.7)	8.7 (21.3)	29.0 (26.7)
Pilgrim Hospital, Boston	PIL	325	347	106.8	96.8	77.3	72.5	92.5	1.9	99.4	97.7	17.4 (12.8)	0.3 (5.1)	17.7 (13.7)
University Hospital Nottingham	UHN	827	726	87.8	93.7	80.7	85.8	98.5	2.0	95.6	72.4	16.1 (11.8)	1.5 (5.8)	17.6 (12.9)
SHA		4469	4224	94.5	92.0	59.3	84.4	48.6	2.6	86.1	82.4	16.9 (14.3)	2.2 (10.1)	19.1 (17.3)
ENGLAND		58640	54985	93.8	92.8	49.9	84.2	49.8	4	92.8	93.1	15.8 (13.1)	3.9 (11.9)	19.7 (17.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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	384	80.0	94.9	66.7	85.2	90.1	1.1	100.0	88.8	15.8 (11.0)	0.4 (5.9)	16.2 (12.1)
Basildon and Thurrock University Hospital	BAS	374	399	106.7	97.1	17.1	83.8	70.2	2.7	99.7	91.5	19.4 (18.8)	0.5 (4.9)	19.9 (19.3)
Bedford Hospital	BED	220	148	67.3	84.5	72.9	85.3	39.8	0.9	97.3	8.3	19.1 (16.3)	0.1 (1.2)	19.2 (16.4)
Broomfield Hospital	BFH	442	426	96.4	91.4	89.8	87.0	85.2	4.1	100.0	76.4	7.7 (7.5)	8.8 (11.1)	16.5 (12.5)
Colchester General Hospital	COL	500	521	104.2	93.5	37.1	87.3	88.9	5.2	98.7	95.0	14.0 (10.4)	1.6 (7.2)	15.7 (12.3)
East & North Herts Hospital	ENH	500	462	92.4	91.5	54.4	89.2	90.3	2.7	99.7	86.7	19.9 (15.1)	0.2 (3.0)	20.0 (15.2)
Hinchingbrooke Hospital	HIN	225	158	70.2	85.5	32.7	85.6	9.4	2.4	0.0	94.1	19.9 (14.6)	3.7 (8.9)	23.6 (16.1)
Ipswich Hospital	IPS	422	419	99.3	93.4	85.8	91.3	81.9	2.1	100.0	76.1	15.7 (10.6)	0.9 (4.9)	16.5 (11.4)
James Paget University Hospital	JPH	400	348	87.0	95.3	26.8	88.8	15.2	2.2	97.2	94.0	15.0 (13.2)	6.6 (17.0)	21.6 (22.4)
Luton and Dunstable Hospital	LDH	253	249	98.4	89.0	20.2	81.8	20.6	13.3	60.7	34.5	21.6 (20.2)	2.1 (7.9)	23.7 (21.0)
Norfolk and Norwich University Hospital	NOR	875	817	93.4	95.9	53.2	79.0	32.1	4.3	97.2	92.0	16.3 (11.8)	0.1 (1.2)	16.4 (11.9)
The Princess Alexandra Hospital, Harlow	PAH	350	308	88.0	98.9	21.6	87.7	100.0	14.5	100.0	94.0	16.8 (12.4)	0.3 (2.6)	17.2 (13.0)
Peterborough District Hospital	PET	400	381	95.2	94.6	68.3	86.5	0.5	1.4	100.0	91.2	17.0 (12.8)	1.6 (8.9)	18.6 (16.2)
Queen Elizabeth Hospital, King's Lynn	QKL	320	350	109.4	93.1	71.8	87.2	77.7	1.9	93.1	91.9	13.9 (10.2)	1.8 (7.4)	15.7 (12.4)
Southend Hospital	SEH	485	407	83.9	89.0	33.8	83.9	17.4	3.8	85.7	77.0	6.0 (6.6)	11.4 (11.3)	17.5 (11.6)
Watford General Hospital	WAT	450	379	84.2	95.5	55.4	90.7	89.7	0.0	100.0	95.0	12.2 (7.4)	5.2 (14.7)	17.4 (16.4)
West Suffolk Hospital, Bury St. Edmunds	WSH	310	304	98.1	97.2	84.8	91.5	37.8	5.0	100.0	93.2	12.8 (9.1)	4.2 (9.8)	17.0 (13.4)
SHA		7006	6460	92.2	93.7	51.7	86.2	58.4	4.0	94.0	94.9	15.0 (12.8)	2.8 (9.1)	17.8 (14.8)
ENGLAND		58640	54985	93.8	92.8	49.9	84.2	49.8	4	92.8	93.1	15.8 (13.1)	3.9 (11.9)	19.7 (17.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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)
Barnet Hospital	BNT	300	302	100.7	91.2	56.8	91.7	100.0	1.5	100.0	100.0	18.2 (14.2)	0.4 (3.2)	18.6 (14.4)
Princess Royal Uni. Hosp., Bromley	BRO	360	315	87.5	90.7	21.5	74.7	5.7	8.2	87.9	94.3	19.0 (14.6)	8.6 (16.1)	27.6 (20.1)
Charing Cross Hospital	CCH	150	103	68.7	94.4	40.8	71.1	39.8	6.7	100.0	98.9	19.1 (15.2)	1.2 (6.3)	20.3 (15.3)
Chase Farm Hospital	CHS	200	210	105.0	91.8	0.0	91.5	100.0	1.1	100.0	97.3	NA (NA)	NA (NA)	16.9 (12.0)
St George's Hospital, London	GEO	176	184	104.5	88.9	32.5	87.9	6.0	1.2	100.0	99.4	7.6 (5.7)	12.0 (15.1)	19.6 (14.3)
Queen Elizabeth Hospital, Woolwich	GWH	258	320	124.0	91.8	6.0	84.4	3.8	0.3	99.0	96.0	26.5 (20.7)	0.5 (5.5)	27.1 (21.7)
Hillingdon Hospital	HIL	200	189	94.5	87.3	63.9	85.6	25.9	4.1	93.8	90.2	12.4 (7.4)	10.1 (16.5)	22.4 (17.6)
Homerton Hospital, london	HOM	90	87	96.7	91.4	11.3	81.0	10.6	9.1	100.0	92.0	14.8 (10.4)	6.9 (14.6)	21.7 (17.0)
King's College Hospital, London	KCH	101	126	124.8	88.3	39.0	81.0	45.5	1.9	91.3	74.5	27.9 (19.6)	0.0 (0.0)	27.9 (19.6)
Kingston Hospital	KTH	360	332	92.2	93.7	14.6	95.0	99.4	1.0	99.7	99.0	15.7 (12.3)	0.1 (1.0)	15.7 (12.3)
University Hospital, Lewisham	LEW	170	165	97.1	95.3	63.0	90.5	83.6	0.0	100.0	90.7	19.8 (15.5)	0.0 (0.0)	19.8 (15.5)
The Royal London Hospital	LON	129	123	95.3	91.0	15.4	75.9	33.3	1.9	34.6	45.5	16.9 (12.4)	9.7 (26.4)	26.6 (27.7)
Croydon University Hospital	MAY	300	240	80.0	91.1	14.7	77.5	64.6	23.1	98.6	86.4	25.0 (18.9)	0.3 (2.8)	25.3 (19.1)
North Middlesex University Hospital	NMH	140	122	87.1	94.8	40.0	92.0	94.3	1.8	100.0	95.6	16.5 (11.5)	0.3 (2.0)	16.8 (11.9)
Northwick Park Hospital, London	NPH	490	246	50.2	83.4	37.7	67.1	93.5	3.8	95.5	94.2	18.3 (11.5)	0.7 (5.2)	18.9 (12.4)
Newham General Hospital, London	NWG	100	122	122.0	96.1	28.8	80.5	66.4	11.0	100.0	99.1	18.9 (13.1)	10.0 (20.9)	28.9 (22.3)
Queen's Hospital, Romford	OLD	600	549	91.5	94.0	43.1	74.5	5.6	1.2	99.4	93.7	8.4 (6.6)	18.2 (20.8)	26.6 (21.6)
Royal Free Hospital, London	RFH	210	196	93.3	90.2	29.2	85.6	77.6	2.3	98.3	85.9	13.9 (9.7)	0.7 (3.3)	14.6 (9.5)
St Helier Hospital, Carshalton	SHC	400	412	103.0	94.5	23.0	93.5	99.3	6.7	100.0	84.8	18.6 (16.1)	3.1 (11.6)	21.7 (20.1)
St Thomas' Hospital, London	STH	220	168	76.4	93.2	74.1	90.0	41.1	6.2	98.1	78.1	14.1 (9.7)	3.5 (10.2)	17.6 (13.0)
St. Mary's Hospital, Paddington	STM	200	197	98.5	96.3	39.8	86.8	22.3	1.1	100.0	96.3	16.1 (12.5)	0.9 (4.0)	16.9 (12.8)
University College London Hospital	UCL	139	112	80.6	89.2	72.0	85.8	41.1	4.8	90.4	79.0	22.0 (13.5)	0.0 (0.0)	22.0 (13.5)
Chelsea and Westminster Hospital	WES	170	116	68.2	98.0	7.0	78.8	56.0	8.8	100.0	78.4	20.4 (21.2)	0.4 (3.1)	20.8 (21.1)
Whipps Cross University Hospital	WHC	320	297	92.8	91.0	17.6	82.9	74.4	1.5	99.6	100.0	16.0 (12.3)	0.1 (0.9)	16.1 (12.3)
Whittington Hospital, London	WHT	150	133	88.7	96.2	28.1	93.7	37.6	5.7	100.0	89.4	19.2 (14.5)	0.0 (0.0)	19.2 (14.5)
West Middlesex University Hospital	WMU	230	178	77.4	92.6	50.9	77.3	26.4	0.0	94.3	100.0	17.8 (13.0)	2.3 (10.1)	20.1 (16.4)
SHA		6163	5544	90.0	92.1	30.9	83.7	52.9	4.1	96.3	96.8	17.0 (14.5)	4.3 (12.7)	21.3 (17.8)
ENGLAND		58640	54985	93.8	92.8	49.9	84.2	49.8	4	92.8	93.1	15.8 (13.1)	3.9 (11.9)	19.7 (17.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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	406	362	89.2	87.8	26.8	67.8	0.0	6.5	0.0	19.6	12.6 (8.7)	12.5 (21.8)	25.0 (23.9)
Craigavon Hospital, Portadown	CRG	175	130	74.3	82.0	62.0	82.1	32.0	1.6	43.7	52.4	9.9 (4.9)	13.8 (21.2)	23.7 (21.1)
Ulster Hospital	NUH	375	332	88.5	91.2	48.8	37.3	80.4	11.8	66.4	79.9	15.4 (8.7)	6.6 (11.7)	22.1 (14.0)
Royal Victoria Hospital.Belfast	RVB	924	835	90.4	90.7	49.4	50.3	97.4	1.3	97.7	53.9	11.3 (7.3)	7.4 (17.4)	18.7 (18.6)
NORTHERN IRELAND		1880	1659	88.2	89.5	45.0	52.3	67.8	4.8	66.4	63.0	12.4 (8.0)	8.6 (17.8)	21.0 (19.3)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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	330	94.3	95.7	51.8	96.3	57.9	1.4	100.0	88.7	9.4 (6.2)	17.3 (21.3)	26.8 (22.1)
Darlington Memorial Hospital	DAR	320	326	101.9	90.0	76.8	53.8	51.8	1.3	99.6	90.6	10.7 (6.9)	9.6 (12.3)	20.3 (14.2)
University Hospital Of North Durham	DRY	370	347	93.8	92.1	52.8	77.3	46.1	1.3	98.7	83.9	10.4 (8.3)	14.1 (17.0)	24.5 (19.1)
University Hospital of North Tees	NTG	315	372	118.1	88.7	84.8	89.2	44.9	4.4	98.2	88.7	14.6 (8.8)	7.3 (14.6)	21.9 (16.8)
North Tyneside General Hospital	NTY	340	329	96.8	95.0	47.5	96.8	27.1	0.7	99.3	78.7	10.5 (7.5)	12.5 (23.5)	23.0 (24.6)
Queen Elizabeth Hospital, Gateshead	QEG	300	293	97.7	98.6	79.2	92.3	44.7	7.3	99.6	79.2	17.3 (10.9)	2.1 (10.6)	19.4 (14.6)
Royal Victoria Hospital, Newcastle	RVN	450	425	94.4	95.7	66.0	87.5	47.3	4.3	100.0	84.8	14.1 (11.9)	18.5 (26.9)	32.6 (27.4)
James Cook University Hospital, Middlesborough	SCM	512	456	89.1	91.1	91.5	86.8	36.4	0.7	99.5	91.1	16.9 (11.8)	1.5 (9.4)	18.4 (14.8)
South Tyneside District Hospital	STD	208	209	100.5	93.9	27.9	55.7	7.2	4.4	100.0	90.6	16.8 (13.2)	12.9 (21.6)	29.7 (22.8)
Sunderland Royal Hospital	SUN	420	377	89.8	93.5	71.6	83.5	54.9	9.0	100.0	84.9	21.8 (16.6)	1.5 (8.5)	23.3 (19.1)
SHA		3585	3464	96.6	93.3	65.3	83.2	43.2	3.8	98.8	97.0	14.4 (11.4)	9.4 (18.5)	23.8 (20.3)
ENGLAND		58640	54985	93.8	92.8	49.9	84.2	49.8	4	92.8	93.1	15.8 (13.1)	3.9 (11.9)	19.7 (17.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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	350	319	91.1	97.4	10.5	93.8	45.5	2.9	100.0	97.1	18.2 (13.5)	1.6 (7.3)	19.8 (15.4)
Royal Blackburn Hospital	BLA	425	458	107.8	93.4	70.4	88.6	48.3	2.3	100.0	92.0	15.1 (11.4)	5.1 (12.2)	20.2 (16.8)
Royal Bolton Hospital	BOL	360	354	98.3	96.0	74.9	78.2	61.9	5.0	62.7	94.1	18.8 (12.1)	0.9 (5.7)	19.7 (12.9)
Fairfield Hospital, Bury	BRY	200	242	121.0	89.2	65.3	57.3	50.4	5.5	60.3	97.7	12.7 (9.0)	5.6 (12.0)	18.3 (15.0)
Cumberland Infirmary, Carlisle	CMI	275	243	88.4	94.0	74.0	88.5	20.2	3.1	43.3	76.3	13.0 (13.5)	0.7 (4.1)	13.7 (14.0)
Countess of Chester Hospital	COC	320	323	100.9	92.3	41.6	83.3	34.7	12.0	98.9	96.1	18.5 (14.4)	4.2 (10.9)	22.7 (17.8)
University Hospital Aintree	FAZ	380	367	96.6	94.7	31.0	91.0	67.0	2.7	100.0	78.8	15.1 (10.1)	10.2 (18.8)	25.4 (20.5)
Furness General Hosp., Barrow-in-Furness	FGH	150	120	80.0	90.4	58.0	83.2	3.3	7.5	100.0	96.5	25.1 (20.4)	4.6 (16.8)	29.8 (25.3)
Leighton Hospital, Crewe	LGH	250	283	113.2	89.5	78.5	76.8	24.7	4.3	98.8	91.8	17.5 (11.5)	1.3 (6.9)	18.8 (14.5)
Macclesfield General Hospital	MAC	240	236	98.3	88.6	88.3	86.0	62.6	1.4	97.2	92.0	18.1 (12.3)	5.3 (13.5)	23.5 (18.4)
Manchester Royal Infirmary	MRI	175	164	93.7	92.6	73.8	65.8	25.6	3.4	98.6	80.3	11.5 (8.9)	18.2 (20.7)	29.7 (22.6)
North Manchester General Hospital	NMG	249	157	63.1	86.8	49.3	70.3	11.6	8.8	22.6	31.7	21.6 (17.5)	4.8 (11.7)	26.4 (20.2)
Nobles Hospital, Isle of Man	NOB	80	88	110.0	94.8	93.2	91.4	5.7	0.0	98.8	43.4	15.0 (9.9)	1.9 (7.1)	16.9 (11.5)
Royal Oldham Hospital	OHM	279	229	82.1	93.1	63.4	70.2	97.4	4.0	95.4	96.5	15.6 (13.1)	6.8 (14.1)	22.5 (17.8)
Royal Lancaster Infirmary	RLI	300	249	83.0	87.6	52.2	73.6	23.8	0.9	89.8	64.0	13.8 (9.9)	8.5 (16.7)	22.3 (18.5)
Royal Liverpool University Hospital	RLU	370	355	95.9	98.4	48.9	85.6	63.1	0.9	98.8	80.1	18.6 (13.4)	1.3 (6.2)	19.9 (14.7)
Royal Preston Hospital	RPH	457	400	87.5	82.0	55.0	75.7	1.5	0.8	100.0	96.2	15.0 (11.9)	7.1 (13.4)	22.1 (18.1)
Stepping Hill Hospital, Stockport	SHH	370	382	103.2	92.2	0.0	92.2	14.4	4.4	99.7	86.8	21.8 (16.9)	1.2 (8.9)	23.0 (18.4)
Royal Salford Hospital	SLF	240	206	85.8	89.0	65.5	75.3	42.4	3.9	99.4	31.8	13.9 (11.2)	1.7 (7.8)	15.6 (12.9)
Southport District General Hospital	SOU	300	270	90.0	91.2	57.1	85.0	0.0	0.0	100.0	0.0	15.2 (12.3)	2.7 (8.0)	17.9 (14.7)
Tameside General Hosp, Manchester	TGA	350	247	70.6	89.2	69.9	61.4	95.9	0.5	100.0	90.7	18.9 (14.8)	0.0 (0.3)	18.9 (14.8)
Trafford General Hospital, Manchester	TRA	100	121	121.0	94.4	47.1	92.4	13.2	1.0	100.0	100.0	27.3 (19.9)	0.4 (2.8)	27.7 (20.3)
Victoria Hospital, Blackpool	VIC	500	403	80.6	69.9	31.2	71.9	79.2	1.3	97.4	92.3	13.7 (11.4)	9.7 (16.1)	23.5 (20.8)
Warrington Hospital	WDG	380	341	89.7	91.3	59.4	80.2	10.9	6.3	100.0	86.4	19.0 (12.4)	0.8 (4.6)	19.8 (13.2)
Whiston Hospital, Prescot	WHI	400	387	96.8	92.5	30.5	96.0	28.3	0.7	96.5	90.7	16.7 (13.4)	6.5 (14.4)	23.2 (18.5)
Arrowe Park Hospital, Wirral	WIR	499	430	86.2	89.9	73.1	93.2	55.8	14.7	90.7	86.6	17.1 (12.6)	6.3 (12.5)	23.4 (17.7)
Wythenshawe Hospital, Manchester	WYT	300	273	91.0	94.2	20.1	82.4	9.9	2.1	100.0	99.6	19.2 (16.4)	7.0 (15.3)	26.2 (21.6)
SHA		8299	7647	92.1	90.7	50.9	82.1	38.9	4.1	91.2	89.1	17.0 (13.4)	4.6 (12.3)	21.6 (17.6)
ENGLAND		58640	54985	93.8	92.8	49.9	84.2	49.8	4	92.8	93.1	15.8 (13.1)	3.9 (11.9)	19.7 (17.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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	160	169	105.6	91.9	39.1	90.1	81.3	5.4	100.0	83.9	19.8 (18.3)	3.8 (12.0)	23.6 (20.8)
St.Mary's Hospital, Isle of Wight	IOW	250	232	92.8	95.0	70.2	88.1	91.8	2.3	92.6	10.2	13.4 (9.8)	7.4 (15.8)	20.8 (18.5)
Milton Keynes General Hospital	MKH	250	108	43.2	88.0	19.2	86.4	10.2	2.1	89.4	82.0	20.5 (14.2)	0.0 (0.0)	20.5 (14.2)
Basingstoke & N.Hants Hospital	NHH	220	227	103.2	99.1	62.2	94.3	74.4	4.8	100.0	89.4	18.1 (13.5)	0.0 (0.0)	18.1 (13.5)
Queen Alexandra Hosp., Portsmouth	QAP	654	688	105.2	98.0	87.2	87.6	84.7	1.7	100.0	98.0	15.5 (10.2)	3.7 (9.8)	19.2 (13.3)
John Radcliffe Hospital, Oxford	RAD	480	531	110.6	90.5	61.5	67.6	72.9	3.6	92.0	86.6	13.7 (8.5)	0.4 (2.2)	14.1 (8.6)
Royal Berkshire Hospital, Reading	RBE	500	486	97.2	96.0	26.5	86.7	77.2	0.9	100.0	90.4	10.2 (11.7)	6.6 (11.0)	16.8 (14.2)
Royal Hampshire County Hospital	RHC	275	234	85.1	98.3	29.1	92.0	97.9	5.7	100.0	51.9	15.8 (10.4)	6.5 (14.0)	22.3 (18.1)
Southampton General Hospital	SGH	600	584	97.3	85.5	73.1	79.4	86.1	3.2	99.1	87.7	15.8 (10.1)	0.2 (2.4)	16.0 (10.4)
Stoke Mandeville Hospital, Aylesbury	SMV	380	387	101.8	92.7	19.1	84.2	57.1	0.6	97.5	96.7	16.0 (14.3)	0.3 (2.0)	16.4 (14.5)
Wexham Park Hospital, Slough	WEX	370	369	99.7	84.9	31.4	86.3	37.2	5.6	91.6	84.2	16.9 (13.9)	1.0 (4.5)	17.9 (14.7)
SHA		4139	4015	97.0	92.6	48.3	84.0	73.9	3.0	96.0	97.1	15.2 (11.9)	2.6 (8.6)	17.8 (14.1)
ENGLAND		58640	54985	93.8	92.8	49.9	84.2	49.8	4	92.8	93.1	15.8 (13.1)	3.9 (11.9)	19.7 (17.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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	279	87.7	94.5	37.2	85.6	2.5	0.8	46.3	34.4	20.5 (17.6)	0.7 (4.1)	21.2 (17.9)
Eastbourne Hospital	DGE	378	377	99.7	94.1	32.3	92.0	1.1	2.1	78.4	83.3	16.9 (13.2)	1.6 (6.0)	18.5 (15.0)
Darent Valley Hospital, Dartford	DVH	363	342	94.2	95.6	38.3	75.7	10.8	6.1	94.0	85.6	18.5 (14.1)	0.7 (4.1)	19.2 (14.7)
East Surrey Hospital, Redhill	ESU	485	460	94.8	90.9	12.8	82.3	66.8	6.0	100.0	96.6	19.3 (15.6)	0.0 (0.3)	19.3 (15.6)
Frimley Park, Camberley	FRM	360	322	89.4	95.8	56.6	93.7	1.9	3.1	100.0	97.9	18.9 (14.7)	2.8 (10.9)	21.7 (18.5)
Medway Maritime Hospital	MDW	375	332	88.5	94.3	50.6	82.8	31.0	5.9	99.3	86.6	19.2 (15.6)	0.1 (1.7)	19.3 (15.6)
Queen Elizabeth the Queen Mother Hospital, Margate	QEQ	445	417	93.7	94.4	64.7	88.6	89.0	0.9	98.7	89.7	16.3 (12.5)	5.4 (16.3)	21.7 (21.4)
Royal Sussex County Hospital	RSC	500	426	85.2	94.5	39.7	87.7	44.6	10.8	97.7	90.1	7.2 (6.0)	13.2 (15.2)	20.4 (16.4)
Royal Surrey County Hospital	RSU	378	335	88.6	91.7	24.8	92.3	48.8	3.2	98.1	84.1	20.3 (18.4)	0.6 (6.4)	20.9 (19.2)
St Peter's Hospital, Chertsey	SPH	400	387	96.8	97.9	55.1	94.1	77.0	4.3	100.0	89.4	16.9 (14.5)	5.3 (12.9)	22.1 (19.3)
St Richard's Hospital, Chichester	STR	400	375	93.8	93.8	4.7	91.5	60.8	3.9	95.0	94.2	10.9 (7.6)	4.7 (9.8)	15.6 (11.6)
Tunbridge Wells Hospital	TUN	460	224	48.7	92.5	41.4	90.2	4.9	7.8	3.9	91.3	15.4 (13.4)	7.9 (13.8)	23.3 (16.1)
William Harvey Hospital, Ashford	WHH	485	357	73.6	91.3	43.8	88.1	69.6	2.3	99.4	93.7	18.4 (14.1)	0.9 (6.7)	19.3 (15.5)
Worthing & Southlands Hospital	WRG	493	452	91.7	93.5	5.0	87.6	95.1	1.0	100.0	92.5	8.8 (9.8)	18.6 (22.9)	27.4 (24.2)
SHA		5840	5085	87.1	93.9	33.8	88.0	47.3	4.5	88.9	93.7	16.4 (14.3)	3.9 (11.2)	20.3 (17.2)
ENGLAND		58640	54985	93.8	92.8	49.9	84.2	49.8	4	92.8	93.1	15.8 (13.1)	3.9 (11.9)	19.7 (17.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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	500	512	102.4	89.5	14.3	88.4	60.0	0.2	94.3	86.0	14.0 (9.8)	0.7 (5.4)	14.7 (10.6)
Bristol Royal Infirmary	BRI	300	342	114.0	96.2	14.6	72.0	43.6	7.7	99.7	79.2	17.2 (14.1)	9.4 (15.2)	26.6 (20.5)
Cheltenham General Hospital	CHG	330	327	99.1	93.7	65.9	78.1	80.6	1.0	100.0	90.4	15.7 (10.3)	0.0 (0.0)	15.7 (10.3)
Frenchay Hospital, Bristol	FRY	480	417	86.9	98.4	21.7	93.0	71.2	10.6	100.0	88.2	22.6 (17.0)	0.1 (2.4)	22.7 (17.1)
Gloucestershire Royal Hospital	GLO	400	384	96.0	99.2	66.9	91.0	54.4	0.3	98.8	80.9	14.8 (10.3)	1.1 (5.4)	15.9 (11.3)
Musgrove Park Hospital, Taunton	MPH	400	405	101.2	91.6	71.5	92.5	46.0	2.3	97.2	88.7	15.1 (10.3)	0.5 (5.3)	15.6 (11.3)
North Devon District Hospital	NDD	250	225	90.0	90.4	85.2	88.0	0.9	4.7	100.0	80.0	10.6 (8.5)	10.2 (18.1)	20.8 (21.7)
Poole General Hospital	PGH	923	897	97.2	96.1	66.8	85.2	12.4	2.2	100.0	94.8	11.2 (8.6)	0.0 (0.8)	11.3 (8.6)
Derriford Hospital, Plymouth	PLY	550	501	91.1	89.3	58.3	78.5	49.7	2.0	100.0	96.6	13.1 (8.0)	0.4 (2.8)	13.5 (8.3)
The Great Western Hospital, Swindon	PMS	370	407	110.0	97.7	85.6	91.4	73.7	4.6	100.0	84.5	17.8 (14.9)	0.5 (4.2)	18.3 (15.3)
The Royal Cornwall Hospital, Treliske	RCH	455	555	122.0	93.5	72.0	84.4	87.2	3.7	100.0	84.8	12.7 (8.7)	0.6 (4.4)	13.3 (9.9)
Royal Devon & Exeter Hospital	RDE	552	548	99.3	94.8	65.2	88.9	65.7	1.0	100.0	91.5	11.8 (7.1)	0.2 (1.6)	12.1 (7.3)
Salisbury District Hospital	SAL	226	242	107.1	95.0	73.8	91.3	93.8	1.4	100.0	99.5	16.1 (13.9)	3.5 (11.4)	19.6 (17.5)
Torbay District General Hospital	TOR	460	438	95.2	89.4	68.5	83.8	83.3	1.0	85.5	97.8	8.9 (4.8)	12.5 (15.7)	21.3 (16.2)
Dorset County Hospital, Dorchester	WDH	300	223	74.3	90.6	93.7	91.5	0.4	3.5	81.8	72.4	11.8 (9.2)	0.0 (0.0)	11.8 (9.2)
Weston General Hospital	WGH	294	268	91.2	89.3	68.4	85.8	24.6	13.1	89.3	82.6	15.3 (11.6)	4.4 (10.1)	19.6 (14.5)
SHA		6790	6691	98.5	93.7	55.4	86.3	53.4	3.5	96.7	96.7	14.0 (11.0)	2.2 (8.3)	16.2 (13.4)
ENGLAND		58640	54985	93.8	92.8	49.9	84.2	49.8	4	92.8	93.1	15.8 (13.1)	3.9 (11.9)	19.7 (17.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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	85	87	102.4	91.3	41.0	59.5	9.2	5.8	0.0	46.0	14.9 (8.2)	6.6 (16.5)	21.5 (18.7)
Glan Clwyd Hospital, Rhyl	CLW	375	373	99.5	93.4	57.0	86.5	5.1	5.1	1.3	84.6	12.9 (7.9)	19.1 (26.5)	32.0 (28.0)
Gwynnedd Ysbyty, Bangor	GWY	158	191	120.9	90.1	53.2	78.8	46.8	1.3	99.4	88.4	11.8 (8.7)	19.1 (20.7)	31.0 (21.1)
Morriston Hospital, Swansea	MOR	530	440	83.0	94.0	33.3	82.3	0.2	2.1	89.1	82.9	19.7 (13.2)	21.2 (34.9)	40.8 (37.6)
Nevill Hall Hospital, Abergavenny	NEV	298	272	91.3	93.7	38.8	84.5	57.4	3.6	86.5	76.8	13.6 (12.0)	11.5 (21.0)	25.1 (23.6)
Royal Glamorgan Hospital, Llantrisant	RGH	275	174	63.3	86.8	30.2	69.1	7.5	0.7	100.0	79.2	15.0 (9.1)	23.2 (35.8)	38.3 (35.1)
University Hospital of Wales, Cardiff	UHW	500	501	100.2	85.8	13.5	64.9	61.9	5.9	95.5	85.5	24.2 (19.6)	11.4 (26.2)	35.6 (31.1)
Maelor Hospital, Wrexham	WRX	230	239	103.9	93.8	74.2	82.6	45.2	1.8	95.9	59.8	14.0 (9.3)	16.4 (26.4)	30.4 (27.6)
West Wales General Hospital	WWG	300	259	86.3	90.4	68.4	77.2	76.1	1.7	73.9	89.6	15.1 (15.3)	4.5 (18.1)	19.6 (23.6)
Withybush Hospital, Haverford West	WYB	180	131	72.8	90.1	69.2	58.5	2.3	7.0	56.3	80.7	15.9 (10.1)	6.1 (18.1)	21.9 (20.5)
WALES		2931	2667	91.0	90.9	40.4	76.3	34.1	3.6	69.9	87.6	16.7 (13.6)	15.2 (27.3)	31.9 (29.8)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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	274	279	101.8	92.7	60.5	93.1	12.3	0.8	94.0	99.6	17.2 (15.6)	1.5 (8.4)	18.6 (17.6)
Birmingham Heartlands	EBH	480	454	94.6	93.6	7.1	62.4	78.6	14.9	87.8	67.2	17.9 (16.7)	12.7 (18.5)	30.6 (22.1)
Good Hope Hospital, Birmingham	GHS	400	370	92.5	96.8	24.6	77.4	96.2	3.7	98.8	87.8	16.6 (12.1)	6.0 (19.1)	22.6 (22.1)
County Hospital, Hereford	HCH	300	268	89.3	89.4	68.8	86.7	8.6	8.9	87.2	81.3	11.9 (9.4)	0.0 (0.0)	11.9 (9.4)
New Cross Hospital, Wolverhampton	NCR	375	379	101.1	93.3	51.5	83.8	63.6	3.8	91.1	87.0	9.2 (5.9)	6.6 (13.5)	15.8 (13.9)
George Eliot Hospital, Nuneaton	NUN	230	249	108.3	97.7	51.4	85.3	53.8	16.0	100.0	77.0	18.4 (15.0)	1.8 (9.8)	20.2 (17.8)
Queen Elizabeth Hospital, Birmingham	QEB	375	362	96.5	89.2	32.1	88.1	43.6	11.9	100.0	88.4	17.2 (14.9)	9.2 (16.9)	26.4 (20.1)
Alexandra Hospital, Redditch	RED	250	244	97.6	93.9	56.8	84.0	98.0	0.0	100.0	100.0	17.1 (14.3)	0.1 (1.6)	17.2 (14.5)
Royal Shrewsbury Hospital	RSS	350	344	98.3	95.0	57.7	55.4	32.9	1.5	100.0	80.7	13.4 (11.3)	2.7 (9.5)	16.1 (15.3)
Russells Hall Hospital, Dudley	RUS	478	468	97.9	97.1	47.1	94.7	38.5	5.9	100.0	86.5	16.3 (16.3)	5.7 (18.1)	22.1 (24.9)
Sandwell General Hospital	SAN	350	334	95.4	94.2	58.1	86.6	39.0	2.4	90.4	81.1	19.7 (19.2)	5.1 (14.6)	24.8 (23.9)
Stafford Hospital	SDG	250	242	96.8	85.2	46.9	74.3	1.7	6.5	79.5	92.3	15.4 (11.5)	7.5 (13.8)	22.9 (17.9)
Uni. Hosp. of North Staffs, Stoke-on Trent	STO	550	509	92.5	92.2	59.4	84.7	59.6	1.8	99.0	79.8	11.4 (10.1)	0.2 (2.2)	11.5 (10.4)
Princess Royal Hospital, Telford	TLF	280	182	65.0	92.1	70.6	63.3	3.9	0.0	86.4	81.5	12.5 (9.8)	12.0 (20.5)	24.5 (22.2)
University Hospital Coventry	UHC	506	483	95.5	99.0	47.4	92.9	11.0	1.1	100.0	96.3	18.3 (13.6)	9.1 (18.0)	27.4 (21.8)
Warwick Hospital	WAR	365	273	74.8	96.9	72.1	92.2	93.4	2.7	99.6	97.2	18.0 (16.8)	11.5 (25.1)	29.4 (30.6)
Manor Hospital, Walsall	WMH	365	317	86.8	88.2	24.3	71.4	43.8	4.2	75.1	68.2	17.9 (16.2)	2.8 (9.5)	20.7 (18.7)
Worcestershire Royal Hospital	WRC	425	398	93.6	87.7	52.4	79.8	17.8	0.0	99.7	51.9	10.5 (8.6)	8.3 (16.9)	18.7 (19.1)
SHA		6603	6155	93.2	93.3	46.2	81.6	45.5	5.4	94.1	92.0	15.4 (14.0)	5.8 (15.3)	21.2 (20.4)
ENGLAND		58640	54985	93.8	92.8	49.9	84.2	49.8	4	92.8	93.1	15.8 (13.1)	3.9 (11.9)	19.7 (17.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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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)	% Falls assessment (BB Std 5)	% Bone health medication 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)
Airdale General Hospital	AIR	200	249	124.5	93.5	66.4	83.0	59.0	2.7	99.6	93.8	15.0 (10.6)	0.6 (3.2)	15.7 (10.8)
Barnsley Hospital	BAR	278	258	92.8	88.2	66.0	81.6	14.3	0.8	77.9	62.6	17.4 (11.4)	0.4 (4.6)	17.8 (12.0)
Bradford Royal Infirmary	BRD	360	271	75.3	91.0	55.1	66.1	37.6	0.5	95.8	74.3	17.3 (11.5)	0.0 (0.0)	17.3 (11.5)
Bassetlaw Hospital	BSL	130	169	130.0	92.4	59.0	83.1	19.5	6.3	100.0	82.3	15.4 (11.0)	0.3 (3.7)	15.7 (11.2)
Doncaster Royal Infirmary,	DID	350	414	118.3	94.2	58.8	86.7	55.1	2.7	100.0	94.6	16.0 (10.9)	7.1 (18.8)	23.2 (22.0)
Diana Princess of Wales Hosp., Grimbsy	GGH	190	265	139.5	93.9	67.4	76.8	34.2	8.4	97.9	83.9	12.6 (7.0)	0.0 (0.0)	12.6 (7.0)
Harrogate District Hospital	HAR	170	231	135.9	90.0	67.0	90.6	13.4	3.3	32.7	41.1	17.0 (12.5)	2.2 (7.7)	19.2 (15.1)
Hull Royal Infirmary	HRI	500	513	102.6	94.4	71.5	87.7	50.8	3.4	99.6	82.9	17.7 (12.6)	1.2 (6.6)	19.0 (14.4)
Huddersfield Royal Infirmary	HUD	421	466	110.7	95.1	68.3	87.7	5.4	2.8	0.3	74.1	17.4 (14.2)	5.4 (13.4)	22.8 (20.0)
Leeds General Infirmary	LGI	700	651	93.0	89.4	43.0	73.2	5.5	1.2	94.9	86.7	19.2 (13.9)	2.3 (7.7)	21.5 (15.2)
Northern General Hospital, Sheffield	NGS	670	537	80.1	92.7	83.8	91.5	58.1	10.5	97.5	82.1	24.9 (19.3)	0.7 (8.4)	25.6 (21.2)
Pinderfields General Hosp., Wakefield	PIN	560	526	93.9	95.9	28.3	78.0	81.5	3.1	100.0	98.1	13.7 (8.9)	3.7 (11.5)	17.4 (14.8)
Rotherham District General Hospital	ROT	300	283	94.3	98.2	83.9	84.1	99.6	3.1	100.0	89.0	18.4 (13.6)	3.3 (10.7)	21.7 (17.0)
Scarborough General Hospital	SCA	320	269	84.1	90.8	54.5	89.2	25.4	1.1	95.7	88.0	9.8 (7.5)	6.7 (12.4)	16.5 (15.0)
Scunthorpe General Hospital	SCU	217	231	106.5	94.2	84.7	62.4	62.3	3.7	100.0	91.4	10.2 (7.6)	1.5 (7.3)	11.7 (10.1)
York Hospital	YDH	380	367	96.6	96.0	86.6	88.4	39.2	0.3	100.0	83.1	16.0 (10.6)	2.6 (9.6)	18.6 (14.6)
SHA		5746	5700	99.2	93.2	61.9	82.4	41.6	3.7	87.0	91.3	16.8 (13.0)	2.6 (10.0)	19.4 (16.2)
ENGLAND		58640	54985	93.8	92.8	49.9	84.2	49.8	4	92.8	93.1	15.8 (13.1)	3.9 (11.9)	19.7 (17.1)
OVERALL		63510	59365	93.5	92.6	52.4	83.1	49.5	3.7	91.9	83.8	15.7 (13.1)	4.5 (13.2)	20.2 (18.0)

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Glossary

Term	Definitions
AMT scores	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	American Society of Anesthesiologists[8] (ASA) physical status classification:- 1. A normal healthy patient 2. A patient with a mild systemic disease 3. A patient with a severe systemic disease that limits activity, but is not incapacitating 4. A patient with an incapacitating systemic disease that is a constant threat to life 5. A moribund patient not expected to survive 24 hours with or without operation This grading does not take into account acute illness, hence a patient can be ASA 1 and 'unfit'.
Bone protection medication	**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**

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Term	Definitions
Case ascertainment	The number of cases submitted by the participating hospital divided by the number of cases predicted, expressed as a percentage.
Casemix factors	Demographic and functional information about patient. e.g. Age, sex, mobility, deprivation status , ASA and previous living circumstances (for mortality data only)
Cemented 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 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 Grade 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
Hemiarthroplasty / Bipolar Hemiarthroplasty	A half hip replacement that is either: Unipolar – replacement of the femoral head and neck Bipolar – replacement of the femoral head and neck, with the addition of an acetabular cup that is not attached to the pelvis.
HES	Hospital Episode Statistics[9] Centrally held data used to determine a hospital's case load.
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[10]	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.
ST3 level doctor	A junior doctor in the third and final year of specialist training
Superspell	Overall NHS length of stay: i.e. 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

Structure and governance

NHFD Steering Group

Co-Chairs

David Marsh
Professor of Clinical Orthopaedics, UCL, Royal National Orthopaedic Hospital

Finbarr Martin
Professor of Gerontology, King's College London

Guy Broome
Consultant Orthopaedic Surgeon, Cumberland Infirmary, Carlisle

James Cooper
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Colin Currie
Clinical Lead for Geriatric Medicine, NHFD

James Elliott
Consultant Orthopaedic Surgeon, Belfast

Colin Esler
Consultant Orthopaedic Surgeon, Leicester

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Antony Johansen
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Contracts & Commissioning Manager, Healthcare Quality and Improvement Partnership

Paul Mitchell
Synthesis Medical

Chris Moran
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Maggie Partridge
NHFD Project Manager

Mike Pearson
Professor of Clinical Evaluation, University of Liverpool

Margit Physant, Age UK
Policy Adviser for Health and Wellbeing

Fay Plant
NHFD Coordinator (North)

Jonathan Roberts
Health & Social Care Information Centre

Opinder Sahota
Professor in Orthogeriatric Medicine & Consultant Physician, Queen's Medical Centre, Nottingham

Bob Smith
Patient Representative

Roz Stanley
Project Manager, Health & Social Care Information Centre

Jonathan Treml
Consultant Geriatrician, Selly Oak Hospital. RCP Falls & Bone Health Audit Lead

Rob Wakeman
Consultant Orthopaedic Surgeon, Basildon University Hospital, and Clinical Lead for Orthopaedic Surgery, NHFD

Richard Griffiths
Consultant Anaesthetist, Peterborough Hospital

Keith Willett
Professor of Orthopaedic Trauma Surgery, John Radcliffe Infirmary, Oxford, and National Clinical Director for Trauma Care, Department of Health

Andy Williams
NHFD Project Coordinator (South)

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NHFD Implementation Group

Chair

Colin Currie
NHFD Clinical Lead for Geriatric Medicine

Tim Bunning
Lead Web Developer, Health & Social Care Information Centre

Maggie Partridge
NHFD Project Manager

Fay Plant
NHFD Coordinator (North)

Jonathan Roberts
Health & Social Care Information Centre

Rob Wakeman
Consultant Orthopaedic Surgeon
Basildon University Hospital and Clinical Lead for Orthopaedic Surgery, NHFD

Andy Williams
NHFD Project Coordinator (South)

NHFD Dataset Sub Group

Chair

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NHFD Clinical Lead for Geriatric Medicine

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James Elliott
Consultant Orthopaedic Surgeon, Royal Victoria Hospital, Belfast

Antony Johansen
Consultant Orthogeriatrician and Senior Lecturer in Public Health, Cardiff & Vale NHS Trust

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Jonathan Roberts
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NHFD Scientific & Publications Committee

Chair

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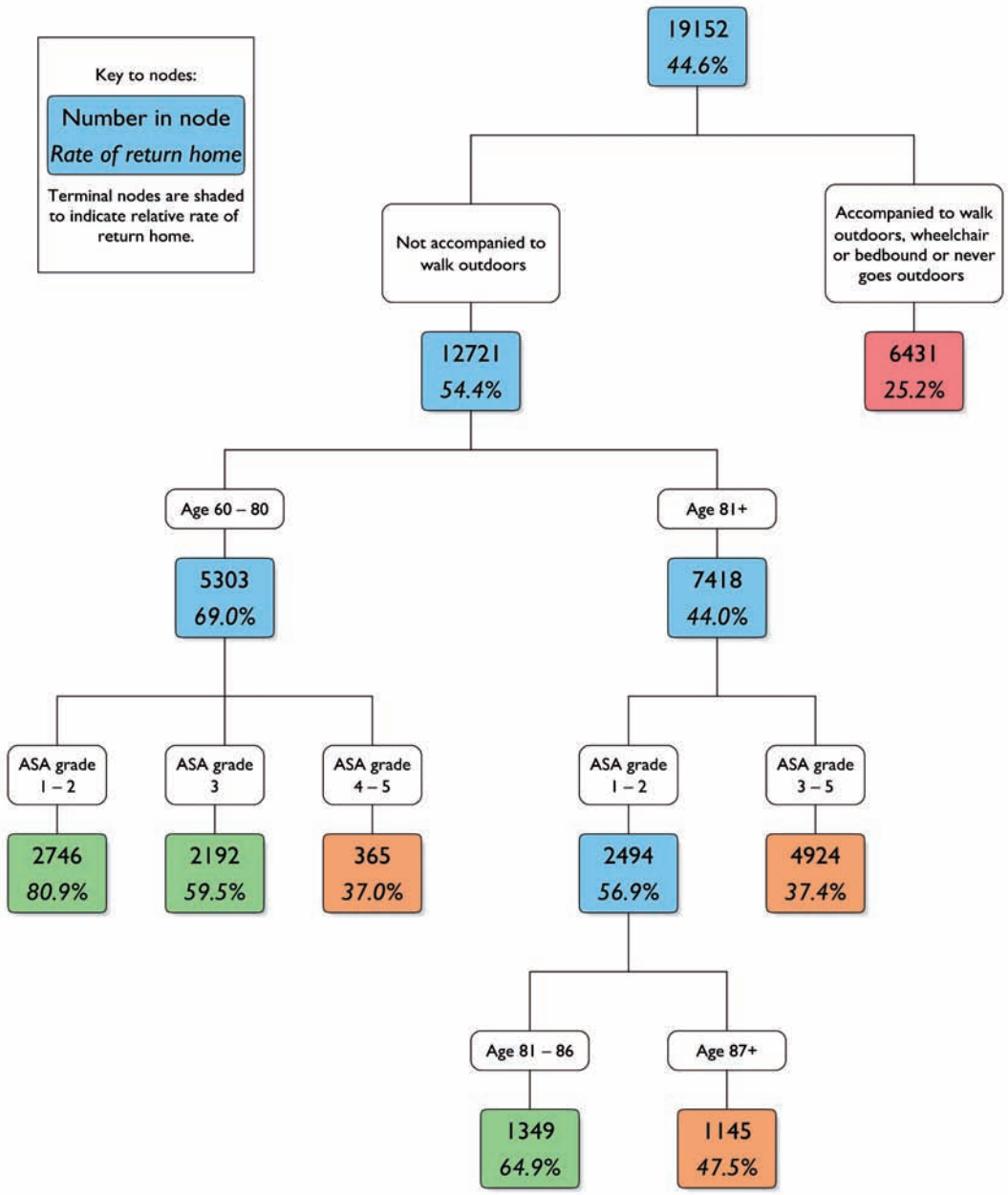
Appendix B

Classification tree - Rate of return home from home at 30 days



This classification tree[11] shows how casemix factors can be used to predict return home of hip fracture patients admitted from home. At each level of the tree the casemix factors are used to split cases into groups with maximally different return home rates.

The most important predictors of return home from home at 30 days are: whether accompanied to walk outdoors; age; and ASA grade. The tree is similar to the previous year's tree (2011 National Report).

The important casemix factors are used to produce casemix-adjusted (standardised) estimates of each outcome by hospital. The raw and standardised rates are displayed in funnel plot (see p.58).

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Excluded hospitals

Excluded Hospitals	No. of cases eligible for return home from home analysis	Percentage of eligible at 30 cases returned home days Raw	Adjusted
AIR	9	0.0	0.0
BAR	8	0.0	0.0
BAT	23	0.0	0.0
BED	8	0.0	0.0
BFH	11	0.0	0.0
BNT	35	14.3	15.5
BRG	7	14.3	15.3
BRO	17	0.0	0.0
BRT	19	0.0	0.0
BRY	43	27.9	28.9
CCH	9	0.0	0.0
CGH	23	8.7	11.4
CHE	10	0.0	0.0
CHS	34	17.6	19.8
CRG	52	53.8	49.0
DAR	16	0.0	0.0
DGE	17	0.0	0.0
DRY	13	0.0	0.0
ENH	42	9.5	11.7
ESU	25	0.0	0.0
FAZ	21	0.0	0.0
GEO	11	0.0	0.0
GRA	3	0.0	0.0
HAR	15	26.7	28.7
HCH	16	0.0	0.0
HIL	16	6.3	7.9
HIN	43	46.5	41.0
HOR	14	0.0	0.0
HRI	24	0.0	0.0
IOW	13	15.4	17.5
IPS	25	8.0	9.2
KCH	9	0.0	0.0
KGH	15	0.0	0.0
KMH	27	0.0	0.0
KTH	16	6.3	7.9
LDH	25	0.0	0.0
LER	35	0.0	0.0
LEW	10	0.0	0.0
LGH	13	0.0	0.0
MAC	25	0.0	0.0
MAY	9	0.0	0.0
MKH	9	22.2	26.9
MPH	56	44.6	49.4
NGS	23	0.0	0.0
NMG	19	10.5	12.7
NMH	19	47.4	49.2
NOB	53	49.1	49.1
NOR	2	50.0	60.0
NPH	13	0.0	0.0
PEH	6	16.7	23.8

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Excluded Hospitals	No. of cases eligible for return home from home analysis	Percentage of eligible at 30 cases returned home days Raw	Adjusted
PET	28	3.6	4.8
QEB	40	12.5	13.7
QKL	21	0.0	0.0
RAD	1	0.0	0.0
RCH	26	3.8	5.6
RED	10	10.0	16.1
RFH	13	0.0	0.0
RGH	9	0.0	0.0
RLI	6	0.0	0.0
RLU	57	78.9	70.7
ROT	17	0.0	0.0
RSC	18	0.0	0.0
RSU	14	0.0	0.0
RUS	19	0.0	0.0
SAL	11	0.0	0.0
SCA	12	0.0	0.0
SCM	6	0.0	0.0
SGH	29	0.0	0.0
SHC	32	3.1	3.9
SLF	13	0.0	0.0
STM	7	0.0	0.0
STO	13	0.0	0.0
TGA	17	5.9	7.0
TLF	8	12.5	14.3
TUN	4	0.0	0.0
UCL	10	30.0	40.6
UHN	41	0.0	0.0
VIC	44	72.7	75.5
WES	17	29.4	37.1
WEX	31	6.5	7.7
WGH	5	0.0	0.0
WHC	30	6.7	7.6
WHI	26	0.0	0.0
WHT	17	11.8	13.6
WIR	25	64.0	71.6
WMH	18	0.0	0.0
WMU	7	0.0	0.0
WRX	49	46.9	40.3
WWG	7	0.0	0.0
WYB	3	0.0	0.0
WYT	11	0.0	0.0

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Appendix C Facilities Audit tables

Facilities audit table 2011-12

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	Where rehabilitation is done
ADD	350000	480	Both	60	14.5	10	32	40	5	1	1	Con	Axial	Nurses	Ward
AEI	360000	350	DGH	64	8	6	20	0	5	0	0	Con	Axial	Nurses	Ward
AIR	220000	200	DGH	20	7	6	12	0	4	0	0	Con	Axial	Audit	Ward
ALT	402303	406	DGH	48	8	2	0	0	0	0	0	None	Axial	Nurses	GORU
ASH	250000	350	DGH	44	9	9	8	24	2	1	0	Con	None	Nurses	GORU
BAR	224600	278	DGH	28	7	8	20	0	5	2	0	Con	Axial	Audit	GORU
BAS	320000	374	DGH	41	11	11	15	25	5	1.4	2	Con	Axial	Nurses	Ward
BAT	500000	500	DGH	20	17	13	24	12	4	1	0	Con	None	Nurses	Ward
BED	270000	220	DGH	17.5	5.5	6	8	0	4	0	0	Nurse	Axial	Nurses	Ward
BFH	400000	442	DGH	46.5	12	10	6	0	5	1	2	None	Axial	Nurses	Ward
BLA	525000	425	DGH	19	16	10	40	4	5	4	0	Con	Axial	Nurses	Ward
BNT	250000	300	DGH	20	7	8	16	40	5	0	0	Con	Axial	Nurses	GORU
BOL	360000	360	DGH	52	10	7	6	6	3	0	0	None	None	Nurses	Ward
BRD	480000	360	DGH	33	16	8	0	0	4	0	0	None	Axial	Nurses	Ward
BRG	95000	85	DGH	0	4	5	0	0	0	1	1	Con	Axial	Nurses	Ward
BRI	300000	300	Both	29	15	12	10	0	2	1	0	Con	Axial	Nurses	GORU
BRO	310000	360	DGH	40	9	15	8	8	3	1	0	Con	Axial	Nurses	Ward
BRT	300000	274	DGH	40	9	8	9	9	3	0	0	Con	Peri	Audit	Ward
BRY	180000	200	DGH	24	5	6	0	2.5	2	0	0	None	None	Nurses	Ward
BSL	150000	130	DGH	28	6	6	5	0	5	1	0	Con	Axial	Nurses	Ward
CCH	350000	150	Both	16	9	7	40	40	5	0	0	Con	Axial	Audit	Ward
CGH	200000	318	DGH	24	10	8	0	0	0	0	0	Con	None	Audit	Ward
CHE	370000	226	DGH	31.5	9.5	10.5	14	0	5	1	0	None	Axial	Audit	Ward
CHG	225000	330	DGH	28	10.5	11	8	30	4	2	1.1	Con	Axial	Nurses	Ward
CHS	250000	200	DGH	15	5	8	8	32	3	0	0	Con	None	Nurses	Ward
CLW	225000	375	DGH	49	8	9	0	0	0	0.5	0	None	Peri	Nurses	GORU
CMI	200000	275	DGH	24.5	8	8	6	4	4	1	0	Nurse	None	Nurses	Ward
COC	250000	320	DGH	40	8	9	9	0	5	2	1	Con	None	Nurses	Ward
COL	370000	500	DGH	48	10	9	8	2	5	0	0	Con	Axial	Nurses	Ward
CRG	220000	175	DGH	50	6	7	20	0	3	1	1	Con	Peri	Nurses	GORU

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Facilities audit table 2011-12

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	Where rehabilitation is done
DAR	250000	320	DGH	34	9	8	17.5	0	5	2	1	Con	Axial	Nurses	Ward
DER	500000	520	DGH	84	20	20	12	0	5	0	1	Con	Axial	Nurses	Ward
DGE	336000	378	DGH	38.5	8	7	20	0	5	1	0	Con	None	Nurses	Ward
DID	300000	350	DGH	56	12	15	16	8	5	4	0	Con	Axial	Nurses	Ward
DRY	250000	370	DGH	54	9	10	12	0	5	1	0	Con	Axial	Nurses	GORU
DVH	300000	363	DGH	20	4.5	8	20	0	5	0	1	None	Axial	Nurses	GORU
EBH	750000	480	DGH	49	11	12	28	12	6	0	0	Con	None	Doctors	GORU
ENH	500000	500	DGH	28	10	14	12	40	5	1	0	Con	Axial	Audit	Ward
ESU	500000	485	DGH	58	8	9	25	40	5	0.5	1	Con	Axial	Nurses	Ward
FAZ	500000	380	DGH	43.5	9	5	8	20	5	0	0	Con	Axial	Doctors	GORU
FGH	100000	150	DGH	17.5	5	5	6	0	3	0	0	Con	None	Audit	Ward
FRM	450000	360	DGH	64	22	19	6	11	6	0	1	Con	Axial	Nurses	Ward
FRY	500000	480	Both	56	14	12	32	0	6	1.4	0	Con	Axial	Nurses	Ward
GEO	260000	176	Tertiary	68	16	0	4.5	0	3	2	0	Con	Axial	Nurses	GORU
GGH	158000	190	DGH	24	6	7	9	9	3	1	1	Con	Axial	Audit	Ward
GHS	400000	400	DGH	22	9	11	8	0	5	0	0	Con	Axial	Doctors	Ward
GLO	320000	400	DGH	52.5	16	10	17	12	5	1	1	Con	Axial	Nurses	Ward
GRA	130000	120	DGH	4	5	5	0	0	0	0	0	None	None	Doctors	Ward
GWH	380000	258	DGH	80	12	12	12	6	5	0	2	Con	Axial	Nurses	Ward
GWY	220000	158	DGH	35	8	12	16	0	4	3.25	3	Con	Axial	Doctors	Ward
HAR	200000	170	DGH	20	9	9	29	0	4	0	0	Con	Axial	Nurses	Ward
HCH	225000	300	DGH	30	8	7	4	10	5	1	0	Con	Axial	Nurses	GORU
HIL	350000	200	DGH	30.5	6	9	44	6	2	0	0	None	None	Nurses	Ward
HIN	250000	225	DGH	20	5	3	0	0	0	0	0	None	None	Nurses	Ward
HOM	115000	90	DGH	0	5	5	4	0	2	0	0	Con	None	Nurses	Ward
HOR	200000	160	DGH	0	5	6	21	40	5	1	1	Con	None	Audit	Ward
HRI	650000	500	DGH	75	19	15	20	40	10	1	3	Con	Axial	Audit	Ward
HUD	495000	421	DGH	52.5	16	14	4	4	2	0	0	Nurse	None	Nurses	Ward
IOW	140000	250	Tertiary	17.5	5	5	0	10	5	1	1	Con	Axial	Nurses	GORU
IPS	320000	422	DGH	35	14	9	20	0	2	1	1	Con	Axial	Nurses	Ward

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Facilities audit table 2011-12

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	Where rehabilitation is done
JPH	250000	400	DGH	22.5	6	7	9	0	3	0	0	None	None	Nurses	Ward
KCH	200000	101	Tertiary	31	12	18	7.1	20	1	1	1	Con	Axial	Nurses	Ward
KGH	340000	345	DGH	32	8	9	0	0	0	4	0	Con	Axial	Nurses	Ward
KMH	400000	450	DGH	38.5	13	10	0	0	0	1.5	0	Con	Axial	Nurses	Ward
KTH	350000	360	DGH	53	8.52	8	34	0	5	0	0	Con	Peri	Nurses	Ward
LDH	350000	253	DGH	46	9	14	0	0	0	0	0	Con	Axial	Nurses	Ward
LER	1000000	900	Both	76.5	20	10	26	8	5	0	0	Con	Axial	Audit	Ward
LEW	450000	170	DGH	38.5	7	7	8	4	7	0	0.5	Con	None	Audit	Ward
LGH	280000	250	DGH	32	8.5	8	7	0	3	0	0	None	Axial	Nurses	Ward
LGI	802842	700	Both	136	16	27	32	0	8	0	1	Con	Axial	Nurses	Ward
LIN	277613	390	DGH	75	13	11	0	0	0	0	0	Con	Peri	Nurses	Ward
LON	250000	129	Both	66	16	20	19	0	4	0	0	Con	Axial	Nurses	Ward
MAC	220000	240	DGH	24.5	7	4	20	8	4	0	4	Nurse	None	Nurses	GORU
MAY	380000	300	DGH	28	8	9	20	10	4	0	0	Con	Axial	Doctors	Ward
MDW	377250	375	DGH	66	11	10	20	0	2	4	5	Con	Axial	Nurses	Ward
MKH	260000	250	DGH	31.5	7	10	2	2	2	0	0	None	None	Doctors	Ward
MOR	400000	530	Both	70	12	10	12	12	3	0	0	None	Axial	Audit	Ward
MPH	350000	400	DGH	52	10	8	14	0	2	0	0	Con	Axial	Nurses	GORU
MRI	251665	175	DGH	31.5	9.5	6	13.5	4	2	3.5	0	Con	Axial	Nurses	Ward
NCR	252791	375	DGH	58	15.2	10	0	6	0	1.3	1.3	Con	Axial	Nurses	Ward
NDD	160000	250	DGH	20	7	7	0	16	1	0	0	None	Axial	Nurses	GORU
NEV	200000	298	DGH	29	8	8	3	37.5	1	0	3	Con	Axial	Nurses	GORU
NGS	500000	670	Both	66.5	23	12	72	40	10	0	0	Con	Axial	Nurses	Ward
NHH	280000	220	DGH	32	10	10	8	24	4	0	0	Con	Peri	Nurses	Ward
NMG	444144	249	DGH	24.5	7	7	0	0	0	0	0	Nurse	None	Nurses	Ward
NMH	250000	140	DGH	12	6	5	10	6	5	0	0	Con	None	Doctors	Ward
NOB	83876	80	Both	20	4	4	0	0	0	1	0	Nurse	Axial	Nurses	Ward
NOR	825000	875	Both	84	20	9	10	35	2	0.6	0	Con	Axial	Audit	Ward
NPH	485000	490	DGH	54	10.9	16	20	5	2	0	0	Con	Axial	Audit	Ward
NTG	400000	315	DGH	49	14	18	12	28	3	0	0.6	Con	Axial	Nurses	Ward

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Facilities audit table 2011-12

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	Where rehabilitation is done
NTH	370000	366	DGH	46	11.6	11	0	0	0	0	0	Con	Axial	Nurses	Ward
NTY	250000	340	DGH	40	9	10	4	40	1	1	0	Con	Axial	Nurses	GORU
NUH	360000	375	Tertiary	45	4	4	4	66	5	0.6	1	None	Axial	Nurses	GORU
NUN	300000	230	DGH	28	5	5	12	0	2.5	0	0	Con	Axial	Audit	Ward
NWG	225000	100	DGH	25	6	6	6	0	2	0	0	Con	None	Doctors	Ward
OHM	429700	279	DGH	42	11	10	25	40	5	0	0	Con	Axial	Nurses	GORU
OLD	750000	600	Both	21	14	24	12	40	3	1	1	Nurse	Axial	Audit	Ward
PAH	299900	350	DGH	29	11	11	30	28	5	0	0	None	None	Audit	Ward
PEH	65000	59	DGH	0	3	0	0	0	0	1	0	Con	Axial	Audit	GORU
PET	300000	400	DGH	40	16	5	0	0	0	0	1	Con	Axial	Nurses	Ward
PGH	484000	923	DGH	114.5	10	13	20	50	8	0	0	None	None	Nurses	Ward
PIL	230000	325	DGH	27.5	7	10	4	0	2	0	0	Con	Axial	Nurses	Ward
PIN	500000	560	DGH	40	14	8	75	75	5	1	0	Con	Axial	Nurses	GORU
PLY	470000	550	DGH	73	19	10	0	40	5	0	0	Nurse	Axial	Nurses	Ward
PMS	400000	370	DGH	70	12.83	17.64	12	64	5	0	0	Con	Axial	Doctors	Ward
QAP	610000	654	DGH	84	24.49	2.83	25.2	39.5	8	1.8	0	Con	Axial	Nurses	Ward
QEB	383000	375	DGH	19	12	13	12	6	4	3	0	Con	Axial	Audit	GORU
QEG	190000	300	DGH	45.5	10	14	24	0	4	2	0.6	Con	Axial	Nurses	Ward
QEQ	175000	445	DGH	35	8	11	10	40	5	0	1.5	Con	None	Audit	Ward
QKL	250000	320	DGH	24	7	7	4	0	2	0	0	Con	None	Nurses	Ward
RAD	500000	480	Tertiary	20	7.5	10	40	40	5	0	2	Con	None	Audit	GORU
RBE	550000	500	DGH	60	18	18	32	40	5	0.5	0	Con	None	Doctors	GORU
RCH	400000	455	DGH	100	19	14	20	20	5	0	1	Con	Axial	Nurses	Ward
RDE	396183	552	DGH	56	12	8	14	11	3	0	0	None	Axial	Nurses	Ward
RED	320000	250	DGH	20	10	8	10	0	5	1	0	Con	None	Nurses	Ward
RFH	250000	210	DGH	20	6.2	7	20	10	5	1	0	Con	Axial	Doctors	GORU
RGH	280000	275	DGH	17.5	7.5	5	5	0	2	0	0	None	Axial	Nurses	GORU
RHC	190000	275	DGH	17.5	8.5	10	15	0	5	0	1	Con	None	Nurses	Ward
RLI	300000	300	DGH	38	9	8	12	12	3	0	0	Con	Axial	Audit	Ward
RLU	350000	370	DGH	92	14.5	11	24	2	6	1	0	Con	Axial	Nurses	Ward

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Facilities audit table 2011-12

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	Where rehabilitation is done
ROT	254000	300	DGH	36	12.2	8	8	0	1	0	0	Con	None	Nurses	Ward
RPH	400000	457	Both	56	12	13	12	0	3	0	0	Con	None	Nurses	Ward
RSC	460000	500	Both	118	20.51	17.25	46.8	0	5	0	0	Con	Axial	Audit	Ward
RSS	330000	350	DGH	50	7	6	10	0	2	0	0	Con	None	Nurses	GORU
RSU	320000	378	DGH	32	13	12	20	40	5	0	0	Con	Axial	Nurses	Ward
RUS	500000	478	DGH	56	11	8	16	40	3	4	0	Con	Axial	Nurses	Ward
RVB	1020000	924	Both	152	10.93	16	35	15.5	8	0	1	Con	None	Audit	GORU
RVN	300000	450	Both	48	7.5	8	10	12	5	1.16	1.14	Con	Axial	Nurses	GORU
SAL	225000	226	DGH	30.5	9	8	20	30	5	1	0	Con	Peri	Audit	Ward
SAN	550000	350	DGH	74	12.5	16	10	3	4	0	0	Con	Axial	Nurses	Ward
SCA	230000	320	DGH	21	6	6	15	0	5	0	0	Con	Axial	Nurses	Ward
SCM	392000	512	DGH	65	26	19	37.5	0	5	1	2	None	Axial	Audit	GORU
SCU	195130	217	DGH	32	6	8	3.5	0	5	0	0	Con	Axial	Nurses	Ward
SDG	300000	250	DGH	17.5	9	4	7	0	5	1	1	Con	Peri	Audit	Ward
SEH.	361000	485	DGH	28	13	12	6	0	0	0	0	Con	Axial	Nurses	GORU
SGH	600000	600	Both	107	14	20	24	24	5	0	0	Con	Axial	Nurses	Ward
SHC	350000	400	DGH	62.5	16	12	26	26	5	1	0	None	None	Doctors	Ward
SHH	350000	370	DGH	57	17	10	24	0	6	0	0	Con	Axial	Nurses	Ward
SLF	275500	240	Both	47.25	7	8	20	0	2	0.5	0.5	Con	Axial	Doctors	GORU
SMV	500000	380	DGH	49	15.5	12	20	6	3	0	1	Con	None	Nurses	GORU
SOU	224000	300	DGH	144	8	8	0	8	1	1	0	None	Axial	Nurses	Ward
SPH	450000	400	DGH	45	12.61	13	18	4	4	1	0	Con	Axial	Nurses	Ward
STD	156000	208	DGH	17.5	5	6	5	0	2	1	0	Con	Axial	Nurses	GORU
STH	400000	220	Both	44	8	0	16	8	5	1	1	Con	Axial	Audit	Ward
STM	325000	200	Both	56	9	7	40	40	5	0.5	0	Con	Axial	Audit	Ward
STO	575000	550	Both	60	19	16	15	0	3	2	1	Nurse	Axial	Audit	GORU
STR	220000	400	DGH	46	7	8	6	0	5	0	0	Con	Axial	Nurses	Ward
SUN	375000	420	DGH	52.5	14	9	8	4	5	1.85	0	Con	Peri	Nurses	Ward
TGA	250000	350	DGH	56	7	6	2	3	5	0	0	Con	Axial	Nurses	Ward
TLF	240000	280	DGH	17.5	8	7	0	0	0	1	0	Con	Peri	Doctors	GORU

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Facilities audit table 2011-12

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	Where rehabilitation is done
TOR	270000	460	DGH	53.5	12	7.5	0	40	3	2	2	Con	Axial	Audit	Ward
TRA	200000	100	DGH	20	6	5	8	0	2	1	0	Con	None	Nurses	Ward
TUN	500000	460	Both	70	14	13	6	3	3	0	0	Con	Axial	Nurses	GORU
UCL	395000	139	Both	28	11	10	4	2	2	1	0	Con	Axial	Nurses	GORU
UHC	425000	506	Both	120	25	22	6	2	5	0	0	None	Peri	Nurses	Ward
UHN	750000	827	Tertiary	120	14	16	25	0	5	1	1	Con	Axial	Audit	GORU
UHW	500000	500	Both	91	15.5	15	30	27	8	3	1	None	Axial	Nurses	Both
VIC	370000	500	DGH	57	8	9	8	4	3	0.2	0	None	Axial	Nurses	GORU
WAR	270000	365	DGH	30	2	8	16	40	4	7	0	Con	Axial	Nurses	Ward
WAT	500000	450	DGH	52	10	14	20	40	5	0	0	Con	None	Audit	GORU
WDG	450000	380	DGH	12	11	8	8	2	5	0	0	Con	Peri	Nurses	Ward
WDH	200000	300	Both	28	8.25	4	6	0	3	0	0	None	Axial	Audit	Ward
WES	180000	170	DGH	26	8	7	7	7	3	3	1	Con	Axial	Nurses	Ward
WEX	550000	370	DGH	33	10	12	4	37.5	2	0	0	Con	None	Nurses	Ward
WGH	220000	294	DGH	25	7.8	8	6	0	2	0.5	0.5	Con	Axial	Audit	Ward
WHC	315000	320	DGH	40	8	8	40	0	2	1	1	Con	None	Nurses	GORU
WHH	175000	485	DGH	43.5	12	10	20	40	5	0.5	0.6	Con	None	Audit	GORU
WHI	350000	400	DGH	61	11.4	11	20	0	5	0	0	Nurse	Axial	Audit	Ward
WHT	240000	150	DGH	20	8	8	8	0	2	0	0	Con	Axial	Doctors	Ward
WIR	400000	499	DGH	79	14	12	26	10	5	0	0	Con	Axial	Audit	GORU
WMH	260000	365	DGH	24	9	9	12	0	3	0	0	Nurse	None	Nurses	Ward
WMU	250000	230	DGH	30	4	9	4	8	1	1	0	Con	Peri	Nurses	Ward
WRC	340000	425	DGH	10	9	8	3	3	3	0	1	Con	Axial	Nurses	GORU
WRG	300000	493	DGH	49	7	10	26	8	7	1	0	Con	None	Nurses	Ward
WRX	250000	230	DGH	27	8	6	10	12	2	0	1	None	None	Nurses	GORU
WSH	280000	310	DGH	17.5	10	7	20	5	5	2	2	Con	None	Audit	Ward
WWG	180700	300	DGH	33	10	8	8	2	5	0	0	None	None	Nurses	GORU
WYB	135000	180	DGH	9	5	5	0	0	0	0	0.8	None	None	Nurses	GORU
WYT	300000	300	Both	37	8	8	2	0	2	0	0	Con	Peri	Nurses	Ward
YDH	350000	380	DGH	36	11	8	20	0	4	1	1	Con	Axial	Audit	Ward

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Appendix D

NHFD Chart Outlines

All charts

Data slices

Admission data slice: Patients admitted between 1st April 2011 and 31st March 2012 inclusive and aged greater than or equal to 60 years (those aged over 110 years are excluded).

Discharge data slice: Patients admitted between 1st April 2011 and 31st March 2012 inclusive, discharged from Trust during the same period and aged greater than or equal to 60 years (those aged over 110 years are excluded).
All charts use the admission data set unless otherwise specified.

Hospital inclusion
Hospitals to be included if 100 or more records were included in the admission data slice or if the hospital had 100% case ascertainment.

Numbers of cases
Hospital (N) – Indicates that all cases are included and the number in brackets is the number of cases per hospital.
Hospital (n/N) – Indicates that a subset has been taken. 'n' is the number of cases in the subset and 'N' is the total number of cases in the hospital.

Chart 1 – Completeness of data fields

Description: Hospitals ranked by the percentage of complete data fields.
Fields Used:
For all patients: Gender, ASA Grade, Admitted From, Walking Ability Indoors, Walking Ability Outdoors, Fracture Type, Operation Performed, Preoperative Medical Assessment, Bone Therapy Medication, Admission Time to A&E, AMTS, Ward Type, Discharge Date from Trust, Discharge from Trust Destination, Anaesthesia Type
For admitted to Orthopaedic Ward: Admission Time to Orthopaedic Ward, Discharge Date from Ward, Discharge from Ward Destination
For patients who did not die in hospital: Pressure Ulcers, Specialist Falls Assessment
For patients who underwent surgery: Date of Surgery
For patients who underwent surgery after 36 hours: Reason for 36 Hour Delay to Surgery
For patients who underwent surgery after 48 hours: Reason for 48 Hour Delay to Surgery
For patients who underwent surgery & were discharged before 1/04/12: 30 Day Reoperation
Calculation: For each hospital, number of completed fields divided by the number of fields that should have been completed.
Data: All 180 hospitals included in chart.

Chart 2 – Age at admission

Description: Hospitals ranked by the percentage of patients aged over 90 years.
Fields Used: Age
Groups: Patient age is grouped into four categories – 60-69, 70-79, 80-89 and 90+.
Total number of patients included: 59,365
All 180 hospitals included in chart.

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Chart 3 – Gender

Description: Hospitals ranked by the percentage of female patients.
Fields Used: Gender
Total number of patients included: 59,365
All 180 hospitals included in chart.

Chart 4 – Admitted from

Description: Hospitals ranked by the percentage of patients admitted from their own home or sheltered housing.
Fields Used: Admitted From
Groups: The responses 'Residential care/Nursing Home/LTC Hospital' (0.7% of cases) and 'Residential care' (12.0% of cases) are combined and shown on the chart as 'Residential Care'.
Total number of patients included: 59,365
Data: All 180 hospitals included in chart.

Chart 5 – ASA grade

Description: Hospitals ranked by the percentage of patients with ASA grade equal to 1, 2 or 3. The left hand side graph shows the percentage of cases with known ASA grade, the right hand side graph shows the percentage of cases with each ASA grade (cases with unknown ASA grade excluded).
Fields Used: ASA Grade
Total number of patients included in LHS chart: 59,365
Total number of patients included in RHS chart: 53,542 (5823 with unknown ASA grade excluded)
All 180 hospitals included in both charts.
Hospital Issues: Hospitals CRG and LON have less than 50% known data.

Chart 6 – Walking ability

Description: Hospitals ranked by the percentage of patients who regularly walked indoors without aids or with one aid prior to admission.
Fields Used: Walking Ability Indoors
Total number of patients included: 59,365
All 180 hospitals included in chart.

Chart 7 – Fracture type

Description: Hospitals ranked by the percentage of patients with displaced or undisplaced intracapsular fracture.
Fields Used: Fracture Type
Total number of patients included: 59,365
All 180 hospitals included in chart.
Hospital Issues: Hospitals TRA and MAC have more than 40% of patients with the response 'Other' (more than twice as much as any of the other hospitals). Hospitals RPH and VIC have more than 40% of patients with unknown response (more than three times as much as any of the other hospitals).

Chart 8 – AMT score

Description: Hospitals ranked by the percentage of patients with AMT score between 0 and 6.
Fields Used: AMTS
Total number of patients included: 59,365
All 180 hospitals included in chart.
Hospital Issues: There are 10 hospitals with 0% data completion.

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Chart 9 – A&E to orthopaedic ward in 4 hours (Blue Book Standard 1)

Description: Hospitals ranked by the percentage of patients admitted to orthopaedic ward (OW) within 4 hours.
Fields Used: Admission Time to A&E, Admission Time to Orthopaedic Ward, Ward Type
Groups: Admitted to orthopaedic ward within 4 hours, admitted to orthopaedic ward after 4 hours, not admitted to orthopaedic ward and unknown. Patients admitted to an orthopaedic ward are classified as 'Unknown' if time to orthopaedic ward is missing or outside of 0-8760 hours. (1 Year)
Total number of patients included: 59,365
All 180 hospitals included in chart.
Hospital Issues: Hospitals BAT and SHH have less than 5% known data; hospital GRA has less than 50% known data. Over 80% of patients at WRG were not admitted to an orthopaedic ward, all 100% of patients at CHS were not admitted to an orthopaedic ward.

Chart 10 – Type of anaesthesia

Description: Hospitals ranked by the percentage of patients that received general anaesthesia either alone or in combination.
Fields Used: Anaesthesia Type
Groups: The response 'Other' has been classified as 'Unknown' in the chart.
Total number of patients included: 59,365
All 180 hospitals included in chart.

Chart 11 – Surgery within 36 hours of admission

Description: Hospitals ranked by the percentage of patients who underwent surgery within 36 hours of admission.
Fields Used: Admission Time to A&E, Admission Time to Orthopaedic Ward, Date of Surgery; Operation.
Calculation: Time to surgery is calculated as the difference between admission to A&E time and surgery time. If admission to A&E time is missing (0.1% of patients) then time to surgery is estimated as the difference between admission to OW time and surgery time.
Groups: Surgery within 36 hours, surgery after 36 hours, no operation performed and unknown. Patients who received surgery and have missing Date of Surgery or have time to surgery outside of the range 0-8760 hours are grouped as 'unknown'.
Total number of patients included: 59,365
All 180 hospitals included in chart.

Chart 12 – Surgery within 48 hours and during normal working hours (Blue Book Standard 2)

Description: Hospitals ranked by the percentage of eligible patients who were treated with surgery within 48 hours of admission and during working hours (8am-8pm). Patients were eligible if they were medically fit, admitted from outside of hospital and underwent surgery.
Fields Used: Admission Time to A&E, Admission Time to Orthopaedic Ward, Date of Surgery, Admitted From, Operation, Reason for 48 Hour Delay to Surgery.
Calculation: Time to surgery is calculated as the difference between admission to A&E time and surgery time. If admission to A&E time is missing (0.1% of patients) then time to surgery is estimated as the difference between admission to OW time and surgery time.
Groups: Surgery in 48 hours and working hours (8am-8pm), surgery in 48 hours but not within working hours, surgery not within 48 hours, unknown. Patients with missing surgery time and patients with time to surgery outside of the range 0-8760 hours are grouped as 'unknown'.
Total number of patients included: 55,345 (4,020 patients were not eligible)
All 180 hospitals included in chart.

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Chart 13 – Reason for delay beyond 36 hours

Description: Hospitals ranked by the percentage of delayed patients who had their surgery delayed for medical reasons.
Fields Used: Admission Time to A&E, Admission Time to Orthopaedic Ward, Date of Surgery, Reason for 36 hour Delay to Surgery, Operation.
Calculation: Time to surgery is calculated as the difference between admission to A&E time and surgery time. If admission to A&E time is missing (0.1% of patients) then time to surgery is estimated as the difference between admission to OW time and surgery time.
Groups: Patients are included in this chart if they underwent surgery more than 36 hours (and less than 8760 hours) after admission to A&E. 'Problem with theatre/equipment' and 'Problem with theatre/surgical/anaesthetic staff' are merged into 'Problem with theatre/equipment/staff'. 'No delay surgery < 36 hours' & 'No delay surgery < 24 hours' are grouped as 'unknown'.
Total number of patients included: 17,524
All 180 hospitals included in chart.
Hospital Issues: Hospitals RVB, ALT, CRG, NUH, WHH, SCM, VIC, MKH, GRA and HCH have less than 50% data completion.

Chart 14 – Patients treated without surgery

Description: Hospitals ranked by the percentage of patients who underwent surgery.
Fields Used: Operation
Total number of patients included: 59,365
All 180 hospitals included in chart.

Chart 15 – Undisplaced intracapsular fractures

Description: Hospitals ranked by the percentage of eligible patients who received arthroplasty. Patients were eligible if they had an undisplaced intracapsular fracture.
Fields Used: Fracture Type, Operation
Groups: Operation categories accounting for less than 3% of all patients were grouped as 'Arthroplasty – Other' or 'Other' as appropriate.
Total number of patients included: 6,407
164 hospitals included in chart (16 hospitals with less than 10 eligible patients were excluded).

Chart 16 – Displaced intracapsular fractures

Description: Hospitals ranked by the percentage of eligible patients who received arthroplasty. Patients were eligible if they had a displaced intracapsular fracture.
Fields Used: Fracture Type, Operation
Groups: Operation categories accounting for less than 3% of all patients are grouped as 'Arthroplasty – Other' or 'Other' as appropriate.
Total number of patients included: 27,805
179 hospitals included in chart (1 hospital with less than 10 eligible patients was excluded).

Chart 17 – Cementing of arthroplasties

Description: Hospitals ranked by the percentage of eligible patients who had a cemented arthroplasty. Patients were eligible if they underwent an arthroplasty.
Fields Used: Operation
Total number of patients included: 28,502
All 180 hospitals included in chart.

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Chart 18 – Total hip replacements for displaced intracapsular fractures

Description: Hospitals ranked by the percentage of eligible patients who received total hip replacement (THR) surgery. Patients were eligible if they received surgery for an intracapsular displaced fracture, had an AMTS of 8 or more, an ASA Grade of 3 or less and were able to walk outdoors with one aid or no aids.
Fields Used: Operation, Fracture Type, Walking Ability Outdoors, ASA Grade, AMTS.
Groups: Patients who received any total hip replacement surgery are grouped as "Total Hip Replacement'. All other operations grouped as 'Other Operation'.
Total number of patients included: 7,480
145 hospitals included in chart (35 hospitals with less than 10 eligible patients were excluded).

Chart 19 – Provision of total hip replacement by age of patient

Description: Percentage of eligible patients who received total hip replacement (THR) surgery by age. Eligible patients are defined as those who had intracapsular displaced fractures and received surgery (operation type not unknown), AMTS of 8 or more, ASA Grade of 3 or less and were able to walk outdoors with one aid or less.
Fields Used: Operation, Fracture Type, Walking Ability Outdoors, ASA Grade, AMTS, Age.
Groups: Patients who received any total hip replacement surgery ("Arthroplasty - THR (cemented)", "Arthroplasty - THR (uncemented - HA coated)"or "Arthroplasty – THR (uncemented - uncoated)") are grouped as "Total Hip Replacement'. All other operations grouped as 'Other Operation'.
Ages are grouped as 60-64, 65-69, 70-74, 75-79, 80-84, 85-89, 90-94 and 95+.
Total number of patients included: 7,563

Chart 20 – Intertrochanteric fractures

Description: Hospitals ranked by the percentage of patients with intertrochanteric fractures who receive internal fixation.
Fields Used: Fracture Type, Operation
Groups: Operation categories accounting for less than 3% of all patients are grouped as 'Arthroplasty' or 'Other' as appropriate.
Total number of patients included: 20,361
All 180 hospitals included in chart.

Chart 21 – Subtrochanteric fractures

Description: Hospitals ranked by the percentage of patients with subtrochanteric fractures who receive internal fixation.
Fields Used: Fracture Type, Operation
Groups: Operation categories accounting for less than 3% of all patients are grouped as 'Arthroplasty' or 'Other' as appropriate.
Total number of patients included: 2,947
139 hospitals included in chart (41 hospitals with less than 10 eligible patients were excluded).

Chart 22 – Development of pressure ulcers (Blue Book Standard 3)

Description: Hospitals ranked by the percentage of eligible patients who developed pressure ulcers. Patients are eligible if they did not die in hospital.
Fields Used: Pressure Ulcers, Discharge Ward Destination, Discharge Trust Destination.
Total number of patients included: 54,110
All 180 hospitals included in chart.
Hospital Issues: Hospitals UHW, HIN, SGH and PLY have less than 50% known data.

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Chart 23 – Preoperative medical assessments (Blue Book Standard 4)

Description: Hospitals ranked by the percentage of patients who underwent any preoperative medical assessment.
Fields Used: Preoperative Medical Assessment
Groups: As multiple responses were possible for this field patients were only allocated to the highest level of assessment they received according to the following hierarchy:
'Already under care' > 'Routine by geriatrician' > 'Routine by physician' > 'Routine by specialist nurse' > 'Medical review following request' > 'None''.
Total **number of patients included:** 59,365
All 180 hospitals included in chart.
Hospital Issues: Hospital VIC has less than 60% known data.

Chart 24 – Bone protection medication at admission

Description: Hospitals ranked by the percentage of patients on bone protection medication at admission.
Fields Used: Bone Therapy Medication
Total number of patients included: 59,365
All 180 hospitals included in chart.
Hospital Issues: Hospital VIC has less than 60% known data.

Chart 25 – Bone health assessment and treatment at discharge (Blue Book Standard 5)

Description: Hospitals ranked by the percentage of eligible patients who were already receiving bone protection medication, started bone protection medication, were assessed for bone protection medication or were awaiting DXA scan or bone clinic assessment. Patients were eligible if they did not die in hospital.
Fields Used: Bone Therapy Medication, Discharge Ward Destination, Discharge Trust Destination
Groups: As multiple responses were possible for this field patients were only allocated to the highest level of assessment they received according to the following hierarchy:
'Continued from pre-admission' > 'Started on this admission' > 'Awaits DXA scan' > 'Awaits bone clinic assessment' > 'Assessed – no bone protection medication needed/appropriate' > 'No assessment or action taken'.
Total number of patients included: 54,110
All 180 hospitals included in chart.
Hospital Issues: VIC has less than 60% known data. None of the patients from SOU received any assessment.

Chart 26 – Specialist falls assessment (Blue Book Standard 6)

Description: Hospitals ranked by the percentage of eligible patients who had received or were awaiting a falls assessment. Patients were eligible if they did not die in hospital.
Fields Used: Falls Assessment, Discharge Ward Destination, Discharge Trust Destination
Total number of patients included: 54,110
All 180 hospitals included in chart.
Hospital Issues: Hospital SDG has less than 20% known data; Hospital PLY has less than 40% known data; Hospital VIC has less than 60% known data. None of the patients from HIN, BRG or ALT received assessments.

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Chart 27 – Secondary prevention overview

Description: Hospitals ranked by the percentage of eligible patients who received both bone protection medication and a falls assessment. Patients were eligible if they did not die in hospital.
Fields Used: Falls Assessment, Bone Therapy Medication, Discharge Ward Destination, Discharge Trust Destination
Groups: Responses to Bone Therapy Medication 'Continued from pre-admission'/ 'Started on this admission'/'Awaits DXA scan'/'Awaits bone clinic assessment'/'Assessed – no bone protection medication needed/appropriate' are taken as a completed bone assessment. Responses to Falls Assessment starting with 'Yes' are taken as a completed falls assessment.
Patients with either of the assessments unknown are grouped as 'Unknown'.
Total number of patients included: 54,110
All 180 hospitals included in chart.
Hospital Issues: SDG has less than 20% known data; PLY has less than 40% known data; VIC has less than 60% known data.

Chart 28 – Length of acute and post-acute Trust stay

Description: Hospitals ranked by total mean length of stay (mean acute stay plus mean post-acute stay). This chart uses the discharge data slice.
Fields Used: Admission Time to A&E; Admission Time to Orthopaedic Ward; Discharge Time from Ward; Discharge Time from Trust.
Calculation: Acute stay is calculated as time from admission to A&E to discharge from orthopaedic ward. If admission to A&E is missing then acute stay is estimated as the time from admission to orthopaedic ward to discharge from orthopaedic ward. Post-acute stay is calculated as the difference between Discharge Time from Ward and Discharge Time from Trust.
Total number of patients included: 53,651 (missing times or times outside of 0 to 365 days are excluded).
All 180 hospitals included in chart
Hospital Issues: CHS has no dedicated orthopaedic ward. WRG's orthopaedic ward closed part way through the year. For CHS and WRG acute stay is also measured by Trust stay.
BRO, CRG and WWG have less than 60% completion.

Chart 29 – Discharge destination from Trust

Description: Hospitals ranked by the percentage of patients who were discharged to their own home or sheltered housing. This chart uses the discharge data slice.
Fields Used: Discharge Trust Destination, Discharge Trust Date
Groups: The responses 'Residential care/Nursing Home/LTC Hospital' (0.1% of cases) and 'Residential care' (11.1% of cases) are combined and shown on the chart as 'Residential Care'.
Total number of patients included: 55,373
All 180 hospitals included in chart.
Hospital Issues: DER has less than 60% known data.

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Chart 30 – Re-operation within 30 days

Description: Hospitals ranked by the percentage of eligible patients who underwent re-operation within 30 days of admission. This chart uses the discharge data slice. Patients are eligible if they underwent any operation.
Fields Used: 30 Day Reoperation, Operation
Groups: Patients with any response indicating that re-operation had occurred are grouped as 'Re-operation within 30 days'. Patients with the response 'None' are grouped as 'No reoperation within 30 days'. Patients with no response or the response 'Unknown' are grouped as 'Unknown'.
Total number of patients included: 48,215
All 180 hospitals included in chart.
Hospital Issues: Many hospitals with poor data completion.

Chart 31 – Follow up data completeness at 30 days (bar plot)

Description: Hospitals ranked by the percentage of complete follow-up fields for eligible patients. Patients were eligible if their status at 30 days was not dead. Data is taken from 1st December 2010 to 30th November 2011 in line with the follow up data completeness chart for 120 days.
Fields Used: Residential Status (30 days); Walking Ability Indoors (30 days); Walking Ability Outdoors (30 days); Accompaniment to Walk Indoors (30 days); Accompaniment to Walk Outdoors (30 days); Bone Therapy Medication (30 days);
Calculation: Number of completed fields divided by the number of fields that should have been completed.
All 180 hospitals included in chart.

Chart 32 – Follow up data completeness at 120 days (bar plot)

Description: Hospitals ranked by the percentage of completed follow-up fields for eligible patients. Patients were eligible if their status at 120 days was not dead. Data is taken from 1st December 2010 to 30th November 2011 to ensure all patients had been admitted 120 days before data was extracted.
Fields Used: Residential Status (120 days); Walking Ability Indoors (120 days); Walking Ability Outdoors (120 days); Accompaniment to Walk Indoors (120 days); Accompaniment to Walk Outdoors (120 days); Bone Therapy Medication (120 days);
Calculation: Number of completed fields divided by the number of fields that should have been completed.
All 180 hospitals included in chart.

Chart 33 – Follow up data completeness at 30 and 120 days (scatter plot)

Description: This chart includes the same information at charts 31 and 32. The data is displayed as a single scatter plot rather than two bar plots. Hospitals are ranked by the average of follow up data completeness at 30 days and follow up data completeness at 120 days.

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Chart 34 BPT uplift eligibility (England only)

Description: Hospitals ranked by the percentage of patients who meet all of the eligibility requirements for BPT uplift. This chart is based on the discharge data slice. Only English hospitals are included.
Fields Used: NHS Number, Admission Time to A&E, Admission Time to Orthopaedic Ward, Date of Surgery, Orthopaedic GMC number, Geriatrician GMC number, Admitted Using Jointly Agreed Assessment Protocol, Geriatrician Assessment Time, Geriatrician Grade, MDT Assessment, Bone Therapy Medication, Falls Assessment.
Calculations: Time to surgery is calculated as the difference in the Admission time to surgery time. Time to geriatrician is calculated as the difference in the Admission time to geriatrician assessment time. Admission time is taken is taken as admission time to A&E, if this is missing then it is taken as admission time to OW.
Criteria: There are 9 criteria which must be met in order for a patient to be eligible for BPT uplift:

1) NHS number is not missing
2) Time to surgery is in the range 0 to 36 hours
3) Orthopaedic GMC number is not missing
4) Geriatrician GMC number is not missing
5) Patient is admitted using jointly agreed assessment protocol
6) Time to geriatrician is between 0 and 72 hours, Geriatrician Grade is equal to 'Consultant', 'ST3' or 'SAS'.
7) MDT Assessment is equal to 'Yes'
8) Bone Therapy Medication response indicates patient received any form of assessment/action
9) Falls Assessment response indicates patient received any form of assessment/action

Groups: Patients meeting all criteria are grouped as 'Eligible'; patients meeting 4-8 of the criteria are grouped as 'Ineligible – meets 4-8 criteria'; patients meeting less than 4 criteria are grouped as 'Ineligible – meets 0-3 criteria'.
Total number of patients included: 54,684

Patients meeting criteria 1: 54,454 (99.6%)
Patients meeting criteria 2: 37,508 (68.6%)
Patients meeting criteria 3: 51,911 (94.9%)
Patients meeting criteria 4: 47,492 (86.8%)
Patients meeting criteria 5: 48,665 (89.0%)
Patients meeting criteria 6: 39,749 (72.7%)
Patients meeting criteria 7: 49,330 (90.2%)
Patients meeting criteria 8: 50,565 (92.5%)
Patients meeting criteria 9: 49,549 (90.6%)

165 hospitals included in chart.

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Appendix E

Using audit to improve care - Good Practice Examples

Better data collection, better care and the Best Practice Tariff: Arrowe Park Hospital

In March 2011 Arrowe Park Hospital appointed an NHFD administrator with the specific aims of improving data collection and submission rates to the NHFD, and improving compliance with Best Practice Tariff standards. Cases submitted rose from 108 in 2010 to 457 in 2011. A Rapid Improvement Workshop held in July 2011 resulted in new care pathway documentation that reduced duplication and was designed to capture data reflecting clinical standards and BPT compliance.

With real-time data, a theatre-based trauma board was able to highlight potential delays and address them. As a result of this, and the appointment of an additional trauma surgeon, the proportion of patients having surgery within 36 hours rose from 66% in 2010 to 86% in 2011. The appointment of a second orthogeriatrician has allowed the implementation of a joint protocol, and has improved preoperative care. Improved collaboration with A&E has resulted in the introduction of prompt fascia iliaca analgesia and greatly improved pain control. To review documentation and data, and to discuss issues and review progress, a multidisciplinary team meets monthly.

Better data collection and better care: Northern General Hospital, Sheffield

In 2010 only 32% of hip fracture cases were submitted to the NHFD. By 2011 this had risen to 71%, and the figure for 2012 is expected to exceed 80%. This was achieved by close cooperation between clinicians, dedicated nurse time to support data collection, and clerical staff tasked with data input. Data collected includes additional local fields covering aspects of quality and patient experience, with key areas monitored at regular meetings. Surgeons, orthogeriatricians, anaesthetists, nursing and therapy staff work closely together to monitor outcomes, develop services and improve care.

A dedicated fragility fracture Ward opened in November 2011, and a hip fracture nurse who will work with the teams already in place to facilitate further improvements in quality was appointed in June 2012. The use of NHFD data on time to theatre, therapy input, rates of pressure sores, length of stay, discharge destination and mortality will continue to monitor the impact of such changes. Over the last year, average length of acute stay was reduced from 27 to 24 days.

Audit and change: Chelsea and Westminster Hospital

At a 'grand round table' meeting in May 2011, hip fracture care at Chelsea and Westminster was recognised as sub-optimal. This marked the beginning of a sustained and successful effort to improve patient care and also to respond to the incentives offered by the Best Practice Tariff. Resultant changes included dedicated theatre sessions for trauma, regular thrice-weekly orthogeriatrician rounds, weekly discharge planning meetings, and a weekly osteoporosis ward round. An agreed assessment pro forma was introduced, and is now completed for 100% of patients; and the Electronic Patient Record now documents collaborative care. BPT achievement has risen from $<10\%$ to $>60\%$, attracting additional income of over £127,000; and average acute length of stay has fallen from 24 to 19.5 days, with estimated savings of £91,000. In-patient mortality has fallen from 11% to 9%, and feedback from staff, patients and carers is now favourable.

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Audit and change: East Lancashire Hospitals NHS Trust

East Lancashire Hospitals NHS Trust first participated in the NHFD in February 2010. Since then clinicians and managers have found NHFD data invaluable in assisting the clinical team to monitor and improve the quality of care for hip fracture patients. The introduction of an integrated care pathway, together with close scrutiny of delays exceeding 48 hours and the appointment of an orthogeriatrician, helped greatly in achieving Best Practice Tariff standards in hip fracture care – which rose from 15.6% of cases in 2010/2011 to 65.3% in 2011/2012. In addition, the incidence of pressure ulcers fell from 5.9% in July 2010 to 2.4% now.

All this was achieved by the regular sharing of NHFD data with the team, focused efforts on problem areas the data highlighted, and thus improving compliance with the six Blue Book standards of care. A bid for funding for an East Lancashire Fracture Liaison Service has recently succeeded in securing re-enablement monies, with plans now to commence this service within the next six months.

Audit and change: Russells Hall Hospital, Dudley

NHFD participation allowed the clinical team to focus on patient experience, minimise delay, improve care and thus reduce morbidity and improve clinical outcomes. Between 2010 and 2012, the percentage of patients operated on within 36 hours rose from 80.9% to 89.3%; with figures for operation within 24 hours rising from 57.9% to 65%. The incidence of pressure ulcers has been reduced from 7.4% to 5.9%, and total Trust length of stay has fallen by 2.8 days.

The innovations behind these improvements include the introduction of dedicated nurse hip practitioners; a dedicated trauma coordinator; a 'hip suite'; patient group directives covering pain relief and IV fluids; and monthly team meetings to review and develop the service.

Audit and change: St Mary's Hospital, Isle of Wight

St Mary's Hospital, Isle of Wight, commenced NHFD participation in October 2009, with feedback data demonstrating some deficiencies in the service. Clinical and management staff then used NHFD data to prompt and monitor service improvements. With part-time orthogeriatrician support; better collaboration between anaesthetists, surgeons and the orthogeriatrician; and with a jointly agreed protocol, care has improved measurably. Average time to theatre has been reduced to under 30 hours, and orthogeriatrician, bone protection and falls assessments all exceed 90%. BPT attainment rose from 22% to 75% over Q1 to Q4 2010/2011. Acute length of stay has fallen by 2.4 days. The case has now been made for a full-time consultant orthogeriatrician post, as hip fracture care continues to benefit from clinical commitment and managerial support.

Audit, Best Practice Tariff and improved care: St Peter's Hospital, Chertsey

St Peter's Hospital began NHFD participation in 2009. In order to meet NHFD clinical standards, the trust appointed two orthogeriatricians in early 2010. Although some aspects of care improved, preoperative delay beyond 36 hours remained common; and in the first quarter of BPT implementation only 49% of patients achieved BPT standards. The Trust invested in a 4-day EQIP (Efficiency, Quality, Improvement and Productivity) initiative on the hip fracture pathway in September 2010. Analysis of NHFD data showed longest delays occurring during or just after the weekend. To address this, and all-day Saturday list was split into two half-day weekend lists. Since November 2010, 60% of patients have surgery within 24 hours, and 80% within 36 hours.

Time to orthopaedic ward admission was also reduced: by the introduction of a priority hip fracture bleep; and by eliminating delays in obtaining air mattresses from central stores by the provision of a ready-use on-ward mattress. Weekend physiotherapy and a hip fracture exercise class improved mobilisation within 24 hours of surgery. Length of stay dropped from 25 to 22 days – with considerable efficiency savings. Importantly, discharge to original residence has improved: to 60% within 25 days now, compared with 44% within 30 days two years ago.

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Improving care and achieving Best Practice Tariff: Queen Alexandra Hospital, Portsmouth

Queen Alexandra Hospital, Portsmouth, has participated in the NHFD since its launch in 2007, and has used data to highlight service issues and improve care over the years. The 2011 NHFD National Report showed how QAP performed better than national and/or SHA averages in terms of: time to admission to orthopaedic care; preoperative geriatrician assessment; operation within 36 and 48 hours; and falls and bone health assessment. It also performed well in terms of discharge to previous residence (70%, compared with a national average of 46%). Notably, in the 2011 NHFD Report, at 78% it ranked first in BPT achievement.

This year, 99.5% of patients were assessed by an orthogeriatrician within 72 hours and 79.7% of patients had surgery within 36 hours. BPT achievement too has risen, to 79.7%.
Resulting BPT monies to the Trust amounted to £227,000 for 2010/11, and £488,000 for 2011/12.

Developing and implementing an orthogeriatric model of care: Pinderfields Hospital, Yorkshire

Recognising that a traditional model of hip fracture care was sub-optimal ("We were letting our patients down"), clinicians and managers at Pinderfields centralised trauma services and used NHFD data and the incentive of BPT to transform hip fracture care. With the introduction of a 36 bedded orthogeriatric ward – 24 specifically for hip fracture patients, new staff appointments, dedicated theatre time, a hip fracture pathway, preoperative optimisation by anaesthetists and the orthogeriatrician, a 'future breach analysis form' to address a target of 24-hour maximum pre-operative delay, and a hip fracture steering group to monitor progress, very substantial improvements in care and outcomes were achieved between April 2011 and March 2012.

The changes depended on many factors, including competency-based training, practice change, team-building sessions and additional equipment (such as sensor pads to reduce in-hospital falls.) Successive quarter-by-quarter improvements were achieved in BPT criteria compliance and in BPT achievement – with the latter rising from 37% to 73%. Mortality fell from 11% in 2010/11 to 7% in 2011/12, and acute length of stay from 19 to 10 days. Feedback on patient and visitor ward rounds is now 'excellent'.

An acute hip fracture ward to improve care: Carmarthen Hospital, Wales

In Carmarthen a change programme initiated by orthopaedic surgeons, supported by management and led by an enthusiastic orthogeriatrician set up a 15-bed acute hip fracture unit - the first in Wales - in a former medical ward in June 2011. With a full-time orthogeriatrician supported by junior staff, a specialist trauma nurse, a fast-track A&E protocol, new procedures to ensure 7-day preoperative assessments, multidisciplinary teamwork, and routine cognitive assessment, falls assessment and osteoporosis assessment, care improved, with a 1% fall in mortality, and a reduction in average acute stay from 16 to 14 days. Improved training opportunities arose, with orthopaedic and medical juniors working well together, and effective team working resulting in improved morale.

Better and more cost-effective hip fracture care: Salisbury Hospital

In 2009/10, with no orthogeriatrician service, a 'non-collaborative approach', and long pre-operative delays, Salisbury ranked 98th out of 100 NHS Trusts in BPT achievement. A change programme – including increased orthogeriatric and nurse practitioner staffing; additional theatre capacity for trauma; and active leadership by the lead orthopaedic surgeon, the lead anaesthetist and the consultant orthogeriatrician – achieved dramatic improvements in compliance with the six Blue Book standards. By 2012, 80% of all patients reached orthopaedic care within four hours; 92% had surgery within 48 hours (and 84% within 36 hours); incidence of pressure ulceration fell from 5.4% to 1.2%; preoperative

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assessment by geriatrician rose from 1.5% to 95%, and bone protection and falls assessment from 6.2% and 3.2% respectively to 100% in both. Mortality fell from 10.1% to 8.4%, and acute length of stay from 27.6 days to 19.8 days between April 2011 and March 2012.
BPT attainment rose from 1.5% to 84.4% – ranked first in South-West region, and in the top five nationally – bringing in BPT income of £187,790. Even more impressively, cost-effectiveness of care – with savings of £391,000 (costed as 1,955 bed-days at £200 per day) – was greatly increased. Importantly, feedback from patients, relatives and clinical staff has been positive.

Hip fracture service redesign, improved care and BPT attainment: St Helier Hospital, Carshalton

In response to the challenge of BPT, the St Helier trauma service established a 23-bed hip fracture unit with a full-time orthogeriatrician and junior medical staff. All patients are under the joint care of both orthogeriatric and orthopaedic teams throughout their acute stay. With the first two slots on the trauma list each morning reserved for hip fracture, average time to theatre has fallen to 24 hours. In the last 12 months 100% of patients have had preoperative, bone health and specialist falls assessment. Over two years pressure ulcer incidence fell from 17% to 6.2%. Mortality too has fallen: from 17% in Q1 2011/2012 to 7.4% in Q4. BPT attainment has risen from 0% over Q1-Q3 2010/2011 to 92% in Q4 2011/2012.

Hip fracture service redesign, improved care and BPT attainment: Northumbria Healthcare NHS Foundation Trust

In 2009, clinicians and managers from the trauma units in two hospitals (Wansbeck and North Tyneside) embarked upon HIP QIP, a quality improvement programme specifically to improve hip fracture care from the time of admission to discharge home, and including secondary prevention. Pain control has improved, with 79% of patients now having highly effective nerve block analgesia on admission. 95% of patients have surgery within 36 hours, and 95% of patients who are medically fit are mobilised on the day following surgery. With the help of specially appointed nutrition assistants, 81% of patients now receive additional feeding daily. Following requests from patients and carers, an information booklet on hip fracture is now provided. Feedback on care from patients and families is high: with monthly average scores consistently above 9.3 out of 10.

Best practice in data collection and follow-up: Royal Victoria Hospital, Belfast

RVH Belfast admits more than 900 hip fracture patients a year, and NHFD data is collected as part of a wider Fracture Outcomes Research Database, which now achieves 99% follow-up. Data is sourced from clinical records and the theatre management system. Telephone reviews at 30 days, four months and one year are undertaken by audit nurses, who contact nursing, residential and rehabilitation units directly and cross-check the remainder with hospital PAS data, GPs, patients and next of kin.

Systems queries have been created to highlight duplicates and missing data. A monthly review of all hip fracture X-rays ensures the accuracy of diagnosis and treatment coding. Data is then uploaded monthly to the NHFD. Although the Best Practice Tariff does not apply in Northern Ireland, NHFD participation is valued by clinicians, managers and commissioners as providing reliable information to support service evaluation and change, and to influence policy.

Basingstoke Hospital: piloting follow-up by post

At Basingstoke Hospital the approach to the collection of NHFD follow-up data developed over the first few years of NHFD participation. An initial plan was to collect data from patients attending a multidisciplinary follow-up clinic. Telephone follow-up – largely carried out by medical staff – was also explored, and some benefits noted (direct contact with patient and/or carer; ability to address wider concerns) but proved difficult because of the limited availability of time, and problems of scheduling the calls to the follow up intervals.

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Positive experience locally of postal follow-up after elective arthroplasty suggested a switch to postal questionnaires with pre-paid reply envelopes. Daily checks on the NHFD website for patients reaching follow-up points, and checks with hospital PMS, to ensure patients are no longer in-patients and remain alive, precede the dispatch of the postal questionnaire. Where patients raise issues, either through additional comments on the form or on an accompanying letter, a telephone call and/or a multidisciplinary clinic review may follow. Only nine of the initial 115 patients were lost to follow-up at 120 days, and data – particularly that relating to mobility – has been encouraging: with a substantial decrease in patients requiring two walking aids between the 30- and 120-day follow-ups.

Improving follow-up to monitor outcomes: Royal Devon and Exeter Hospital

Royal Devon and Exeter Hospital has participated in the NHFD since 2008, and since then has implemented daily trauma meetings and a fast-track protocol to reduce time from A&E to orthopaedic care; recruited two trauma nurse practitioners and two orthogeriatricians; and introduced monthly multidisciplinary review meetings involving clinicians and managers. In the last four years inpatient mortality for hip fracture has fallen from 6% to 4%, and 28 day mortality from 13% to 7%.

In order to determine longer-term outcomes, telephone follow-up at 30, 120 and 360 days – carried out by a trauma nurse practitioner and a trauma ward administrator – has achieved over 99% completeness at all three intervals. Total time spent on telephone calls averages six hours per week. Outcomes documented include place of residence, mobility, and compliance with bone protection medication. Patients' concerns are addressed, and data on longer term outcomes provide a much more comprehensive picture of outcomes following hip fracture care.

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