

Scottish Hip Fracture Audit Rehabilitation Report 2007

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Information Services Division
NHS National Services Scotland
Gyle Square
1 South Gyle Crescent
Edinburgh EH12 9EB
Tel: +44 (0)131-275-6233
Email: nss.isd-publishing@nhs.net

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यह प्रकाशन विभिन्न भाषाओं, बड़े अक्षरों, ब्रेल लिपि (सिर्फ अंग्रेजी) में उपलब्ध कराया जा सकता है। आपके समुदाय की भाषा में इसे प्रकाशन के अनुवाद के बारे में जानकारी के लिए कृपया नीचे दिए हुए नम्बर पर टेलीफोन करें।

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یہ طبع مختلف زبانوں اور بڑے چہاب میں دستیاب کی جاسکتی ہے، برائلی (صرف انگریزی میں)۔ اپنی کمیونٹی کے زبان میں اس طبع کے ترجمے کے بارے میں معلومات حاصل کرنے کے لئے، براہ کرم مندرجہ ذیل نمبر پر فون کیجئے۔

Telephone 0131 275 7777

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Foreword

As the new Chairman of the Scottish Hip Fracture Audit (SHFA) and as a geriatrician, I am pleased to present to you results of our rehabilitation audit.

Historically, the Scottish Hip Fracture Audit has concentrated on processes and standards of care within the acute orthopaedic setting. The data has enabled clinicians to monitor the effects of changes in practice and has also inspired changes to improve patient care.

In 2005 the Steering Group decided on a significant change of direction for the SHFA: to focus on a series of time-limited audits of specific aspects of the hip fracture patient journey. Given the importance of effective rehabilitation for this patient group, we conducted a time-limited audit of the rehabilitation phase of care, in particular the processes of care highlighted by SIGN 56, namely, cognitive, nutritional, falls and bone health assessment.

This Rehabilitation Sprint Audit included all hip fracture patients aged fifty or older admitted to eleven centres in Scotland between April and September 2006. We have looked for evidence of good process of care in the form of a recognised assessment in the areas highlighted. This audit did not look at the quality of assessment, action taken or long term effect on outcomes.

The aim of rehabilitation is to restore a person to their previous capacity or state. Despite the best efforts of the patient, their family and the multi-disciplinary team this may not be possible. We know that hip fracture is often a marker of underlying frailty, dependency and chronic illness. For many patients it is a highlighted clinical event during a period of decline ending ultimately in death. For many others it is an isolated event interrupting an otherwise healthy old age. The hip fracture admission is an opportunity and challenge to not only return the patient to their previous function but to improve various aspects of their quality of life, recognise and treat previously undiagnosed conditions, stabilise chronic conditions, rationalise their medication, reduce falls risk, reduce future fracture risk, adapt their environment, and if necessary assess their community care needs.

As a population, hip fracture patients are at higher risk of future falls and future fragility fractures. We know that many will suffer from confusion or delirium during their hospital stay. Many will present malnourished and the majority will struggle to meet their nutritional needs while in-patients. How many of these important issues are assessed in our patient group?

Perhaps this report raises more questions than it answers. How effective are these various assessments in changing patient management and outcomes? Which patients should be medically reviewed? Are patients admitted from nursing homes discharged too soon? There are many more questions. The question for us, is can we improve the processes of care for hip fracture patients in our own wards?

We welcome your comments and thoughts on this subject. Please contact me at Damien.Reid@lanarkshire.scot.nhs.uk

Dr Damien Reid
SHFA Chairman

Summary and Key Findings

This is a unique audit, which for the first time allows us to look at some of the non-surgical issues in hip fracture care across Scotland. The results show a wide variation between centres in their process of care for this elderly group. It demonstrates a high level of assessment achieved by some of our hospitals with many first assessments being carried out in the acute orthopaedic wards. For many of us it shows we can do better.

The significant prevalence of recent falls and previous fragility fractures with low levels of drug treatment for osteoporosis suggest many of these fractures may have been preventable. Disappointingly, having had their hip fracture, we find only 47% of patients have had a falls assessment and 48% an osteoporosis assessment by six weeks.

It is of concern that 9% of patients discharged home directly from orthopaedics are re-admitted within such a short period. Although the majority of re-admissions are not directly related to the hip fracture, it may suggest a missed opportunity to optimise the patient's health, functional ability and community support.

Main Findings

- There was a large variation in the proportion of patients who were reviewed by medical or geriatric teams during their acute orthopaedic stay. This variation was most marked in the groups discharged directly home or to a care home
- Median length of stay was 24 days
- 28% of patients had a documented past medical history of dementia
- 48% of patients had a cognitive assessment
- 30% of patients were documented as falling at least once in the previous six months
- 47% of all admissions received a falls assessment, on average this was carried out two days post-admission
- 28% of patients had a history of previous fragility fracture, of whom only 12% were on the standard secondary prevention treatment of a bisphosphonate and Calcium/Vit D
- At 42 days 52% of patients were prescribed some form of bone health medication, 21% on bisphosphonate/Calcium/Vit D
- 66% of patients had a nutritional assessment carried out, but this figure varied from 20% to 100% between units

Outcomes at 42 days:

- 36% of patients were in hospital (5% still in acute orthopaedic care)
- 53% of patients admitted from home had returned home
- 31% of patients from home who were previously able to walk unaccompanied and with no aids or just one stick had returned to this level of function
- 33% had returned to independent living

We are aware that in this audit we have only focussed on the timing of first assessments and the number of patients who have been assessed in compliance with the SIGN guideline recommendations. We aim to return to this important area in the future and carry out time-limited audit looking at both the quality of assessments and subsequent actions taken.

Local Audit Co-ordinators

Participating Hospitals	Local Audit Co-ordinator Currently in post
Aberdeen Royal Infirmary *	Davina Grant
Ayr Hospital	Gillian Ward
Borders General Hospital *	Amanda Streets
Crosshouse Hospital	Gillian Ward
Dr Gray's Hospital, Elgin *	Jean Moore
Dumfries and Galloway Royal Infirmary	Alison Strawbridge
Forth Valley Acute Hospitals *	Jean Brewster / Caroline Fraser
Hairmyres Hospital, East Kilbride	Sheena Frew
Glasgow Royal Infirmary	Diane Whiteside
Inverclyde Royal Hospital, Greenock *	Mairi Galbraith
Monklands Hospital	Liz Rundell
Ninewells Hospital, Dundee *	Karen Scrimgeour
Perth Royal Infirmary *	Lorna O'Donnell
Queen Margaret Hospital, Dunfermline *	Karen Forteza
Raigmore Hospital, Inverness *	Floma Mackinnon
Royal Alexandra Hospital, Paisley *	Jacqueline McStay
Royal Infirmary of Edinburgh	Jenny Farquhar / Fiona Neary
Southern General Hospital, Glasgow	Eileen Rennie
Victoria Infirmary, Glasgow	Diane Whiteside
Western Infirmary, Glasgow	Eileen Rennie
Wishaw General Hospital *	Liz Young

* Hospitals which participated in the SHFA rehabilitation audit.

Current Membership of the Scottish Hip Fracture Audit Steering Group

Chairman	
Dr Damien Reid *	Medicine of the Elderly; Hairmyres Hospital, East Kilbride
Vice-Chairman	
Mr Alberto Gregori *	Orthopaedic Surgery; Hairmyres Hospital, East Kilbride
Orthopaedic Surgery	
Mr Clark Dreghorn Mr David Finlayson	Victoria Infirmary, Glasgow Raigmore Hospital, Inverness
Medicine of the Elderly/Rehabilitation	
Dr Ian Lennox * Dr Liz Burleigh *	Victoria Infirmary, Glasgow Southern General Hospital, Glasgow
Anaesthesia	
Dr Heather Hosie	Southern General Hospital and SASM
Public Health	
Dr Rod Muir	Information Services Division (ISD)
Project Management Team	
Ms Diana Beard Mrs Kathleen Duncan * Mr Rik Smith Ms Sadia Majid	Project Manager Clinical Co-ordinator Statistician Data Co-ordinator
Information Services Division (ISD)	
Mr Graham Mitchell	Head of Clinical Governance Programme
Allied Health Professionals	
Ms Norma Goodfellow * Ms Susan Dewar * Sister Joan Russell *	Physiotherapy Occupational therapy Rehabilitation nursing
Patient Representative	
Awaiting re-appointment	

* SHFA rehabilitation subgroup members

The Scottish Hip Fracture Audit would like to acknowledge the following ex-steering group members for their contribution to the early stages of the rehabilitation audit: Dr. C. Currie, Dr. W. Gilchrist and Dr. W. Reid

Data Collection and Presentation Methods

Hospital Participation and Identification

Data are collected at each participating hospital by locally funded, dedicated audit co-ordinators. See Table 1.1 for a list of hospitals participating in the rehabilitation audit. Hospitals are identified in Table 1.1 and subsequently throughout the data section by a letter code.

Data presented on the following pages are for patients with hip fractures who were admitted to orthopaedic care between 1st April and 30th September 2006. Patients younger than 50 years old are not included in the audit. Although a small percentage of patients may have fractured both hips, the fractures are analysed separately. The only exception to this is survival rate (Fig. 10.3) where we have provided data per patient based on their survival following first fracture.

Rehabilitation Services and Data Collection

Rehabilitation services for hip fracture patients in this report were provided in various settings. As well as Geriatric Orthopaedic Rehabilitation Units (GORU), these included facilities run by Consultants in Medicine for the Elderly, Orthopaedic Consultants and General Practitioners.

Patient information was collected up to a maximum of six weeks hospital stay. We only recorded data for the first of each type of assessment (falls, nutrition or osteoporosis) or each type of consultation (acute or COE), but patients may have received further assessments during their inpatient stay. Similarly, first assessments performed later than six weeks post-admission or after discharge (e.g. from an early supported discharge team or an outpatient setting) were not collected. Any assessment tools, whether published or devised locally, were accepted.

Local audit co-ordinators networked with rehabilitation staff to devise various locally suitable methods to optimise access to patient data, in particular from rural settings e.g. link nurses. All patients had data retrieved to at least the end of their acute orthopaedic care. However, in a small minority of patients (2%), data could not be retrieved by the local audit co-ordinators all the way to final hospital discharge (or 42 days inpatient stay, whichever came first). In these cases, it is possible that some consultations or assessments could have occurred after the last date of available data collection, but before the patient left the hospital setting. The percentage of patients whose data was incomplete was higher in some hospitals that regularly discharged patients to smaller rural units (Table 1.1).

Statistical Treatment

Legends accompanying hospital-specific graphs indicate hospitals that had more than 10% missing data for the graphed item, or a sample of less than ten. Unless indicated otherwise, graphs show each hospital's data excluding missing data.

As well as showing each hospital's individual data, the scatter graphs (funnel charts) show red lines indicating the percentage occurrence of the graphed data across all reported patients (horizontal line) and 95% Confidence Intervals for this percentage (funnel lines). The red funnel narrows as the number of cases increases, indicating that a smaller deviation from the mean is required for data to be statistically significant. Hospitals above the upper red funnel line have a statistically higher rate for the graphed data than average, whilst those below the lower line have a significantly lower rate.

Funnel charts in the outcomes section show two rates per hospital, namely the observed percentage rate and the casemix-adjusted rate. Compared to the observed (unadjusted) rates, casemix-adjusted rates allow a more representative national comparison, reflecting differences between hospitals rather than differences in each hospital's population characteristics. For example, as patient mortality increases with age, hospitals with older populations are likely to have a lower survival rate of hip fracture patients - this should be taken into account before comparing outcomes to hospitals with younger populations. More details of how SHFA carries out casemix adjustment can be found in the Presentation Methods section of the SHFA Annual Report for 2006 (<http://www.shfa.scot.nhs.uk/AnnualReport/Main.htm>).

More Detail

A more detailed version of the figures presented here will be available on our website from May 2007 (www.shfa.scot.nhs.uk).

Rehab Data

1. Hospital Summary

The following graphs and tables report the results of SHFA's rehabilitation audit of patients admitted to participating hospitals between April and September 2006.

Altogether, we report on 1550 hip fractures from 11 hospitals as detailed in Table 1.1.

Table 1.1: Hospitals contributing to the rehabilitation audit

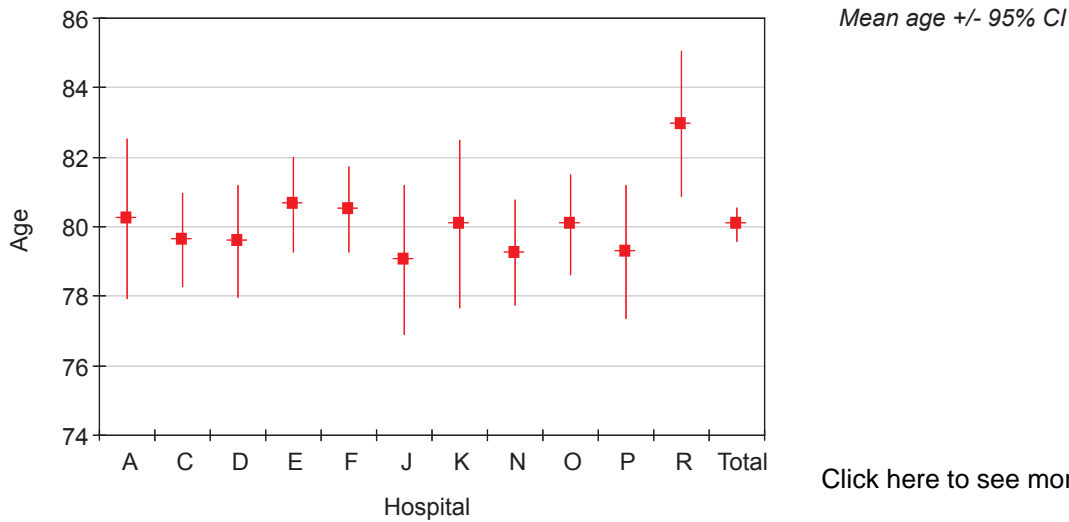
Hospital Identifier	Hospital	Number of hip fractures audited	Periods when data was incomplete	Percentage of patients tracked to end of hospital stay*
A	Borders General Hospital	64		91%
C	Queen Margaret Hospital, Dunfermline	188		100%
D	Forth Valley	170		99%
E	Ninewells Hospital, Dundee	197		100%
F	Aberdeen Royal Infirmary	246		100%
J	Wishaw General Hospital	95	No rehabilitation data collection from 16 patients in September	99%
K	Dr Gray's Hospital, Elgin	72		76%
N	Raigmore Hospital, Inverness	158		96%
O	Royal Alexandra Hospital, Paisley	185		98%
P	Inverclyde Hospital, Greenock	96		98%
R	Perth Royal Infirmary	79		100%
	Total	1550		98%

* Or to 42 days if still inpatient at six weeks. Most patients not tracked to the end of their hospital stay (or 42 days) could not be followed because they were transferred to smaller hospitals where casenote review was difficult. All patients were tracked to at least the end of their stay in acute orthopaedic care.

2. Patient Characteristics

A major determining factor in the outcome of an individual’s hip fracture care is their pre-fracture status. Therefore any comparison of hospital outcomes must take into account the patient population characteristics presenting to that hospital.

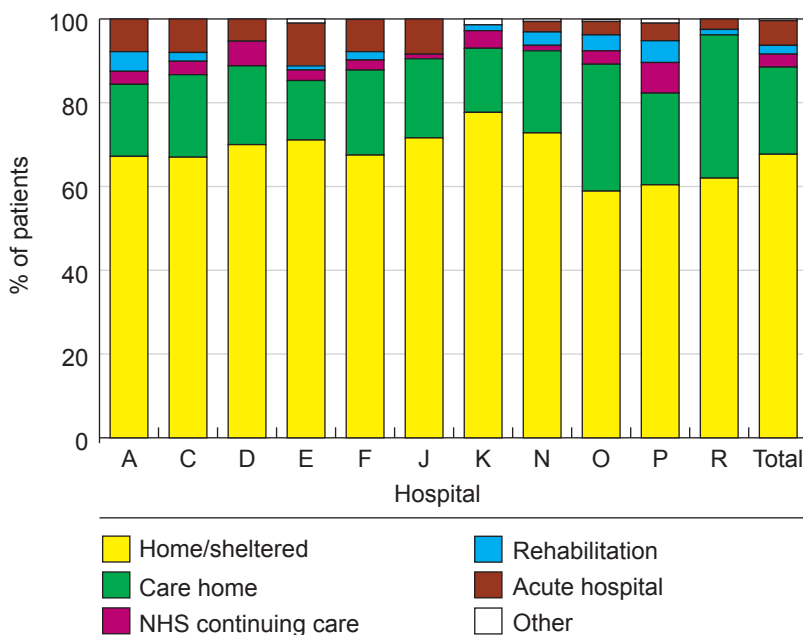
Fig. 2.1: Mean age by hospital



[Click here to see more detail in Table 2.1](#)

SHFA also collects ASA (American Society of Anaesthesiologists) grading as a surrogate measure for co-morbidity. ASA scores range from 1 (normal healthy individual) to 5 (moribund, not expected to survive 24 hours). ASA scoring remains a practical means of documenting a ‘co-morbidity’ effect that is otherwise very difficult to capture, although there are some concerns about subjectivity and documentation rates (79% of surgical patients in this report, varying between 37% and 99% between hospitals). Amongst documented patients included in this report, 29% of surgical patients were ASA 1 or 2 (no illness, or not limited by illness), 55% were ASA 3 (symptomatic disease present, minimal restriction on life), and 16% were ASA 4 (symptomatic disease causing severe restriction).

Fig. 2.2: Pre-fracture residence



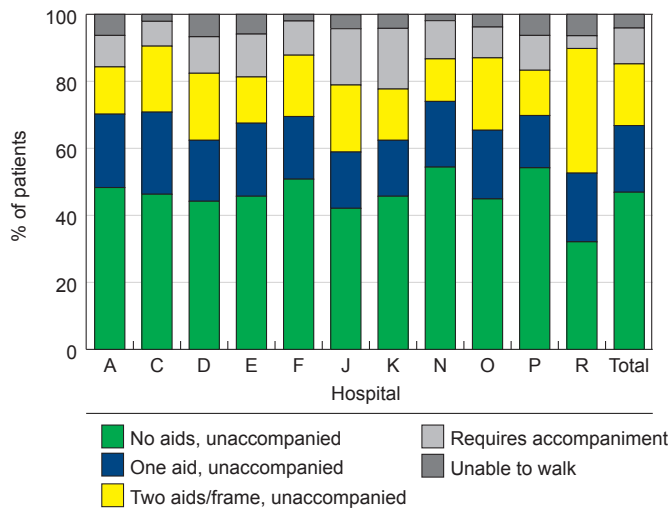
Pre-fracture residence is a major element of casemix as subsequent morbidity and mortality is higher in patients from institutional care.

Home includes sheltered housing; Care home includes residential care and nursing homes; NHS continuing care if the clinical team is no longer attempting to get the patient home (e.g. awaiting space in nursing home or becoming permanent hospital inpatient); ‘Other’ includes hospice care, respite care and hostels.

[Click here to see more detail in Table 2.2](#)

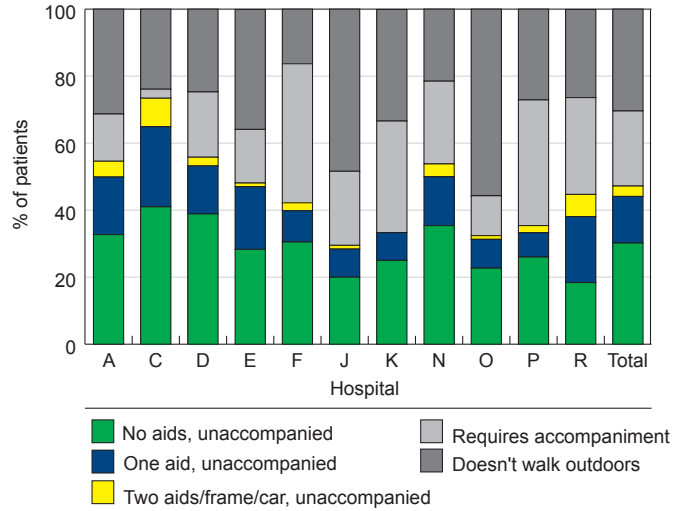
Fig. 2.3: Pre-fracture mobility indoors/outdoors

a) Indoors



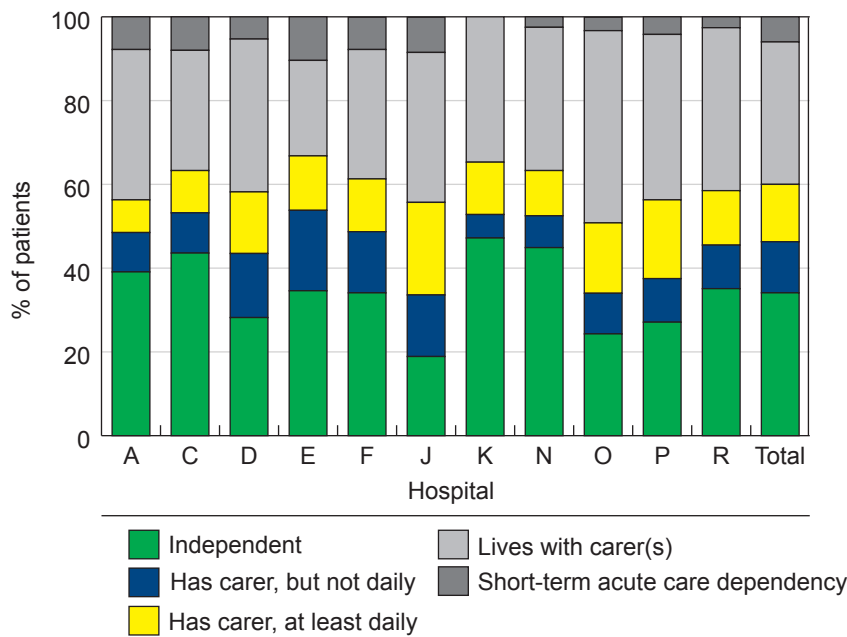
[Click here to see more detail in Table 2.3a](#)

b) Outdoors



[Click here to see more detail in Table 2.3b](#)

Fig. 2.4: Pre-fracture dependency



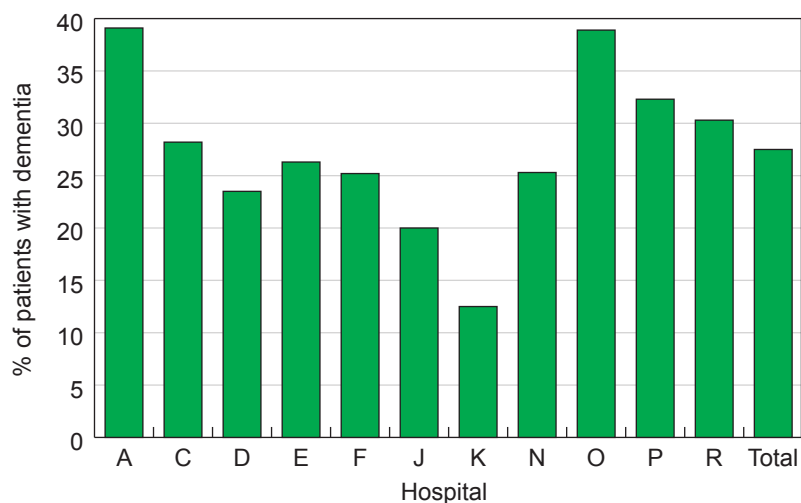
[Click here to see more detail in Table 2.4](#)

Only 34% of patients lived independent of carers pre-fracture.

Fig. 2.5: PMH Dementia

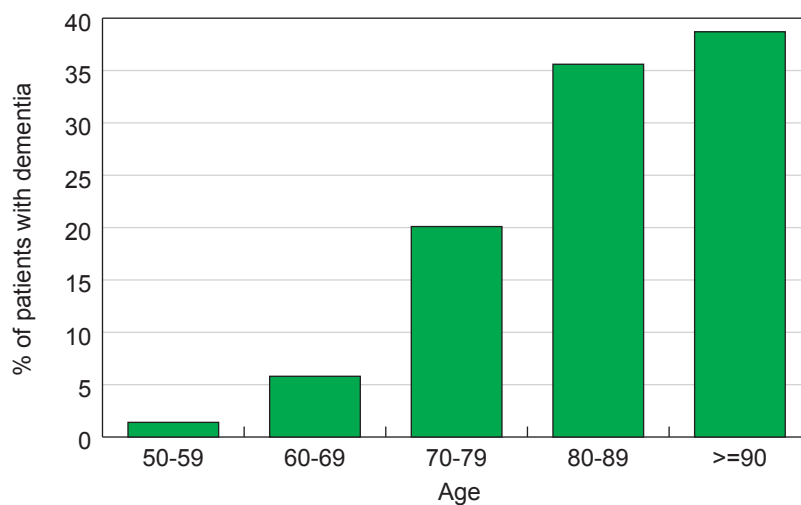
Local co-ordinators were simply asked to record any *documented* history of dementia, so these figures will be an underestimation of the true prevalence.

a) Dementia by hospital



[Click here to see more detail in Table 2.5a](#)

b) Dementia by age group



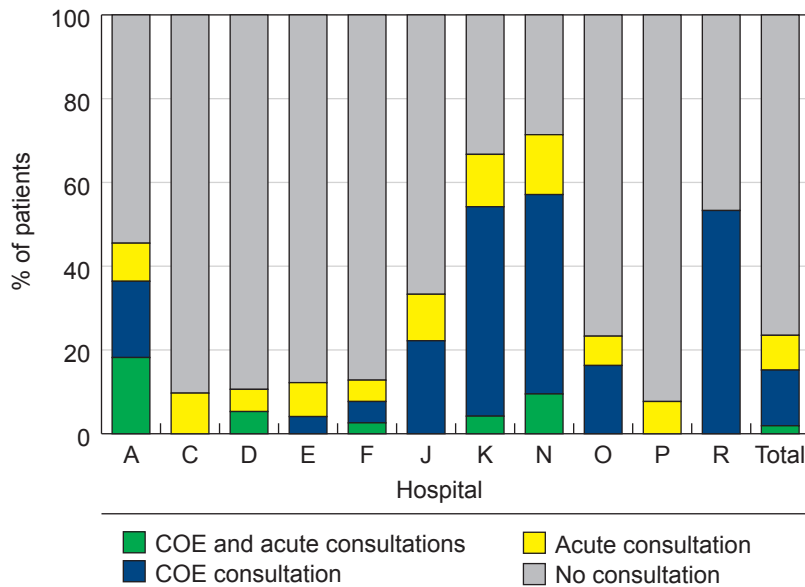
[Click here to see more detail in Table 2.5b](#)

3. Consultations

Only the *first* consultation by an acute physician (medical speciality, any grade) and the first consultation by a Care of the Elderly physician (any grade) were recorded.

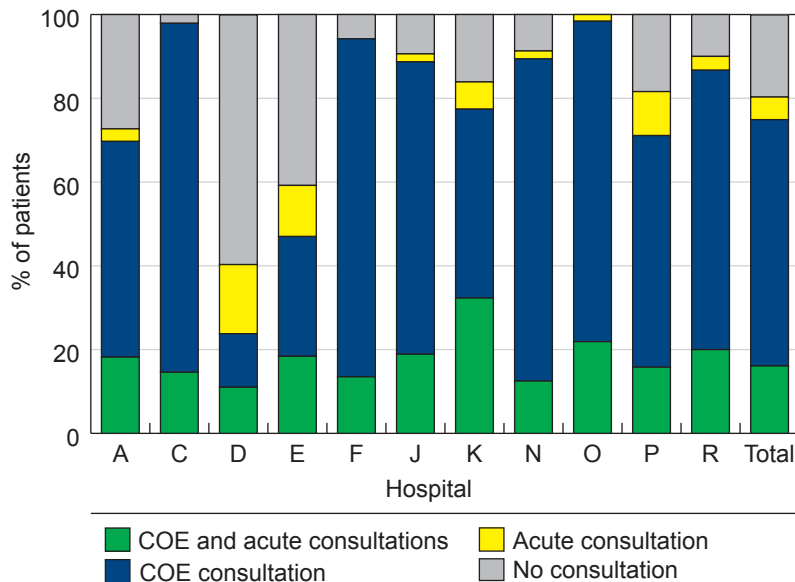
Fig. 3.1: Physician consultations by discharge destination from acute orthopaedic care

a) If discharged straight home



[Click here to see more detail in Table 3.1a](#)

b) If discharged to rehabilitation

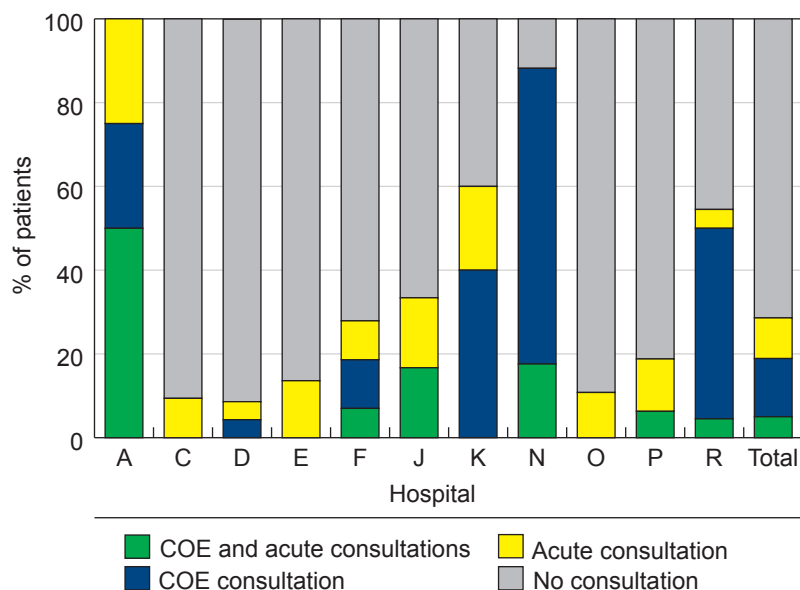


[Click here to see more detail in Table 3.1b](#)

It is interesting to note that there was no evidence of COE consultation in 25% of audited patients who went to rehabilitation.

This may be explained by some patients receiving their rehabilitation in facilities with medical cover from General Practitioners or orthopaedic medical staff.

c) If discharged straight to care home



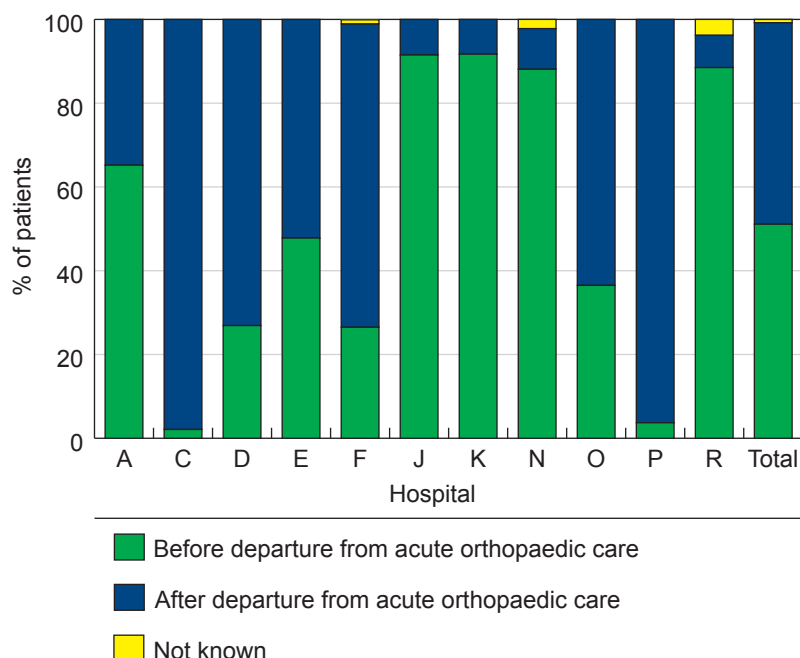
Despite many patients in care homes having very complex needs, only 19% of patients discharged to a care home have a COE physician consultation.

Small samples A (n=4)

[Click here to see more detail in Table 3.1c](#)

There was a large variation in the proportion of patients who were reviewed by medical or geriatric teams during their acute orthopaedic stay. This variation was most marked in the groups discharged directly from home or to a care home.

Fig. 3.2: Timing of COE physician consultations if patient was subsequently discharged to rehabilitation

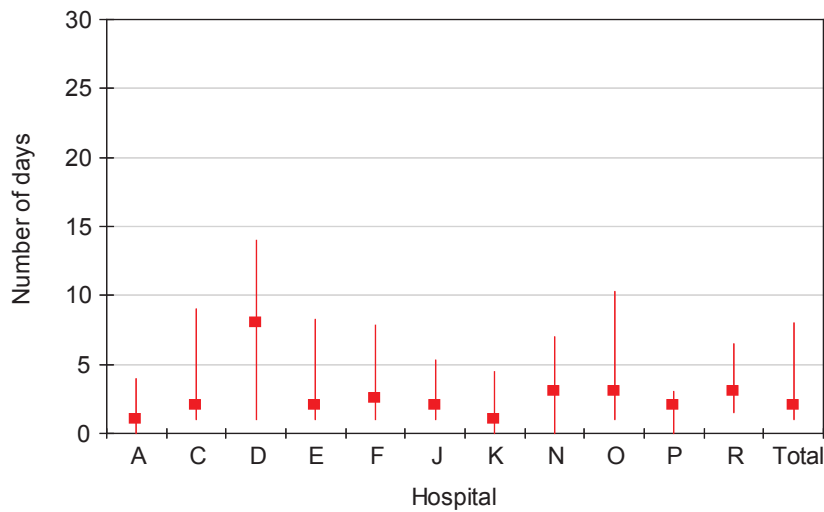


[Click here to see more detail in Table 3.2](#)

The variations between hospitals may reflect differences in referral practices. Some units may have protocols for referral and acceptance of patients, whilst in other units all referred patients are reviewed by a COE physician before transfer.

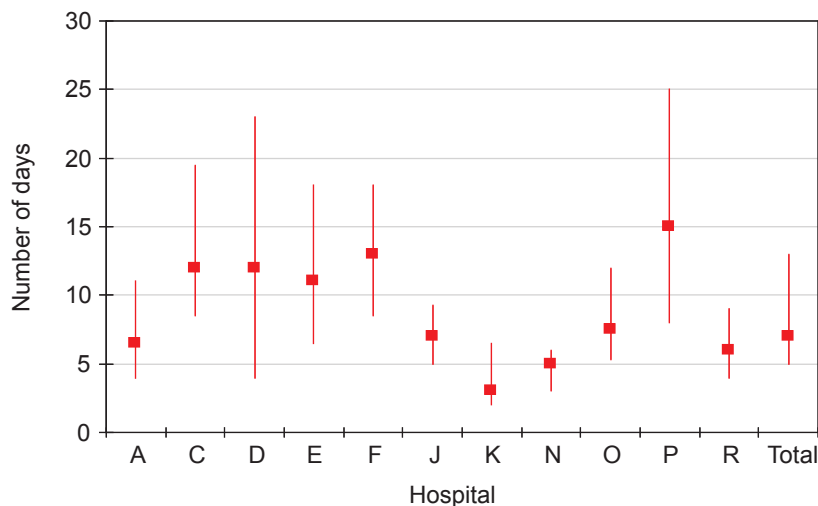
Fig. 3.3: Number of days from admission until physician consultations

a) Acute physician



[Click here to see more detail in Table 3.3a](#)

b) COE physician



[Click here to see more detail in Table 3.3b](#)

Points represent the median number of days to consultation at each hospital. Lines extend to show the interquartile range (lower and upper values indicate the number of days within which a quarter and three-quarters of patients have received consultations).

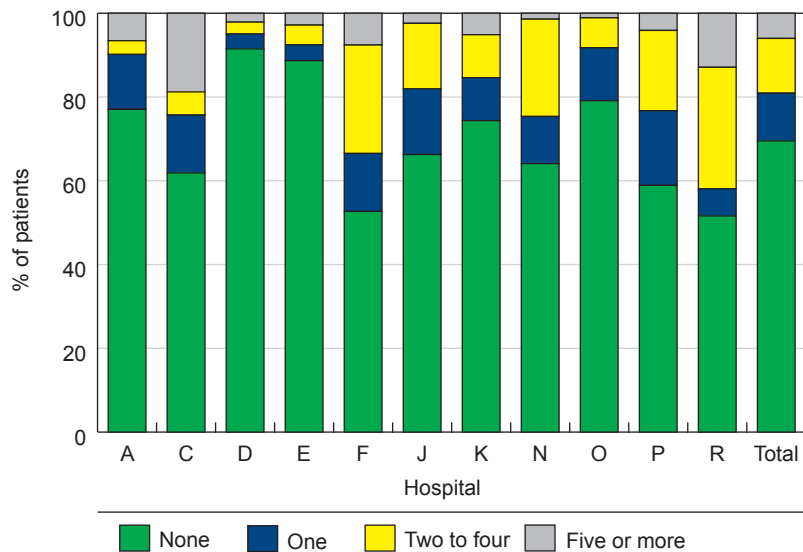
The median time from admission to the first acute physician consultation was 2 days (38% on or before the day of surgery, 50% after surgery, 11% of patients treated conservatively). In comparison, COE consultations occurred an average of 7 days post-admission (6% on or before the day of surgery, 91% after surgery, 3% of patients treated conservatively).

Of the 271 patients who were delayed to theatre because they were medically unfit, 85 (31%) were seen by an acute physician on or before the day of their surgery.

Further work is required to explore the decision-making process used when determining patients' fitness for theatre and actions taken to optimise fitness levels. A SHFA time-limited audit commenced in February 2007 to look at postponement of theatre due to medical reasons.

4. Falls Assessments

Fig. 4.1: Falls in six months preceding fracture



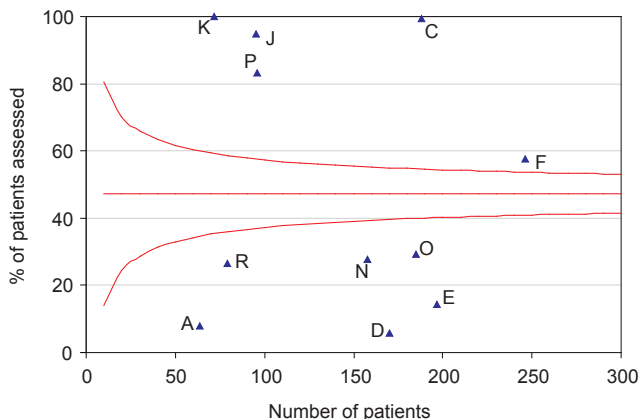
[Click here to see more detail in Table 4.1](#)

Information on falls was collected from case-notes and patient/carer recall. Patients may be unable to recall or reluctant to admit to previous falls, so these data may underestimate actual falls. Despite this caveat, 30% of patients did report falling at least once prior to the incident when they broke their hip. This figure highlights a group of patients where falls prevention strategies may have helped reduce falls and avoid fractures.

Note that the overall percentage of patients who were assessed following their hip fracture may be higher than recorded below because some assessments may have been carried out after the end of the audit period (e.g. inpatient, outpatient, community, early supported discharge team).

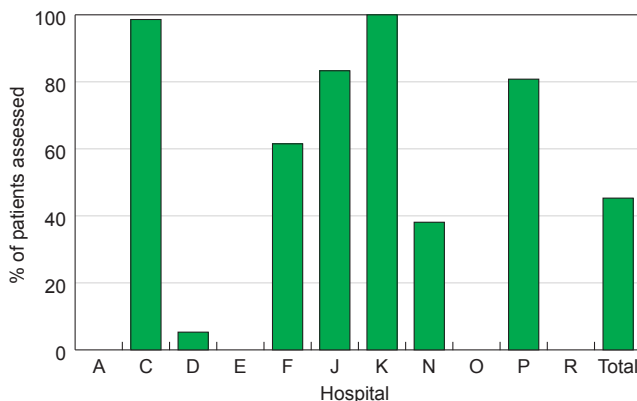
Fig. 4.2: Falls assessments by discharge destination from acute orthopaedic care

a) All patients



[Click here to see more detail in Table 4.2a](#)

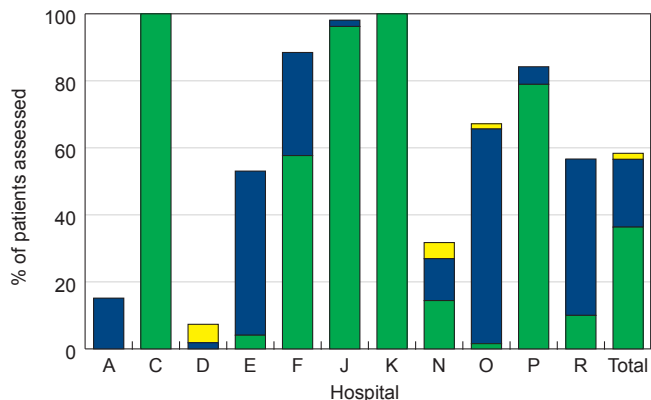
b) Patients discharged straight home



■ All assessments

[Click here to see more detail in Table 4.2b](#)

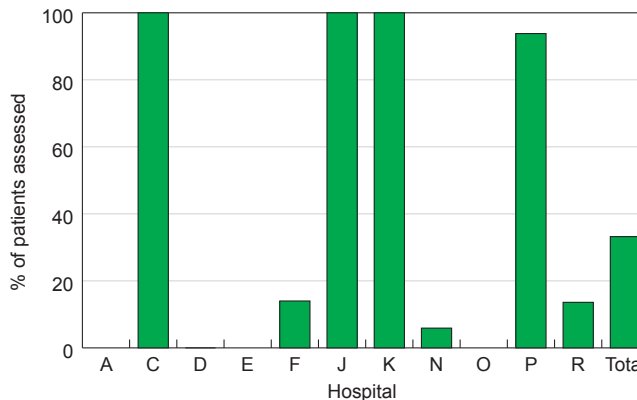
c) Patients discharged to rehabilitation



■ Before departure from acute orthopaedic care
 ■ After departure from acute orthopaedic care
 ■ Assessed, not known when

[Click here to see more detail in Table 4.2c](#)

d) Patients discharged straight to a care home



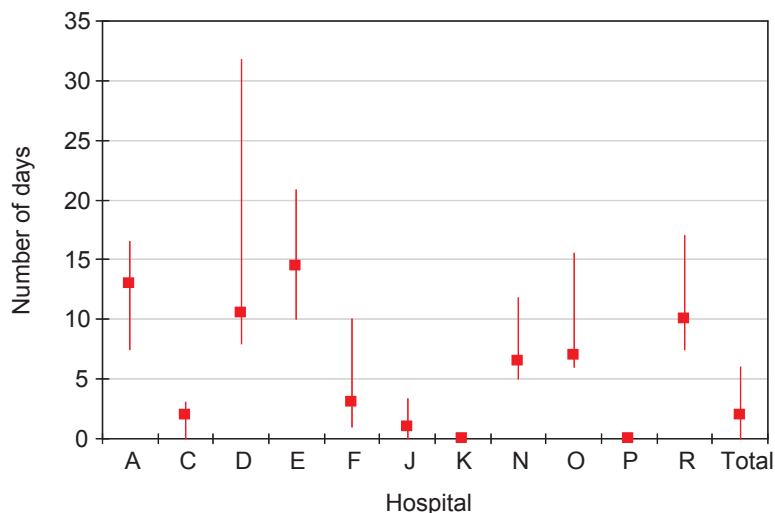
■ All assessments

Small samples A (n=4)

[Click here to see more detail in Table 4.2d](#)

In comparison to patients living at home, care home residents by nature of their co-morbidities are at much higher risk of further falls and fragility fractures. Fig. 4.2d shows that this patient group is least likely to have a falls assessment (33%) compared to those discharged to their own homes (45%) or those transferred to rehabilitation from an orthopaedic setting (58%). Although there is great variation in assessment rates between units, some centres report high levels of falls assessment regardless of destination.

Fig. 4.3: Number of days from admission until falls assessment (all patients)



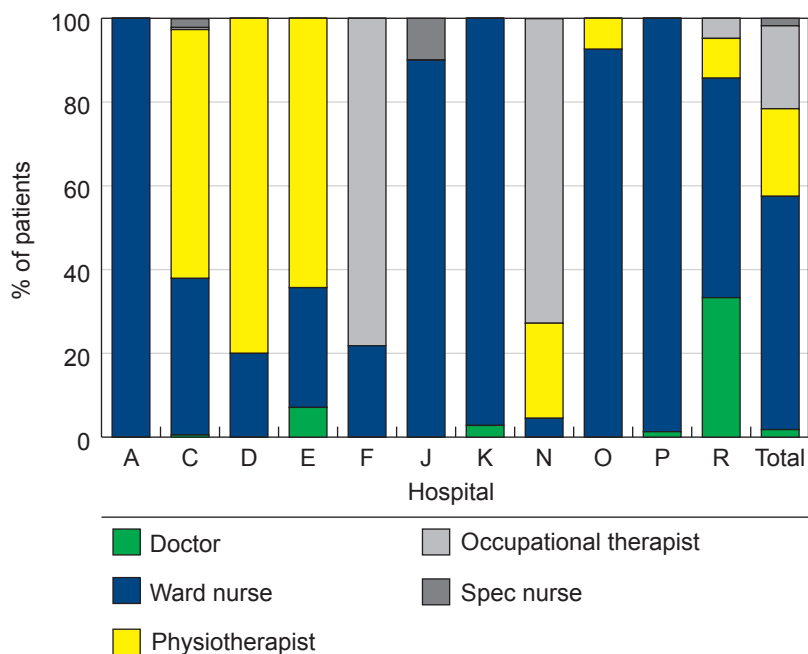
[Click here to see more detail in Table 4.3](#)

Small samples A (n=5), D (n=4); missing data D (60%), N (14%)

Points represent the median time to assessment at each hospital. Lines extend to indicate the number of days within which a quarter and three-quarters of patients were assessed.

If fall risk assessment strategies are to be effective, the first assessment should be carried out as soon as possible after admission, when patients are at highest risk of falling.

Fig. 4.4: Grade of staff carrying out falls assessment

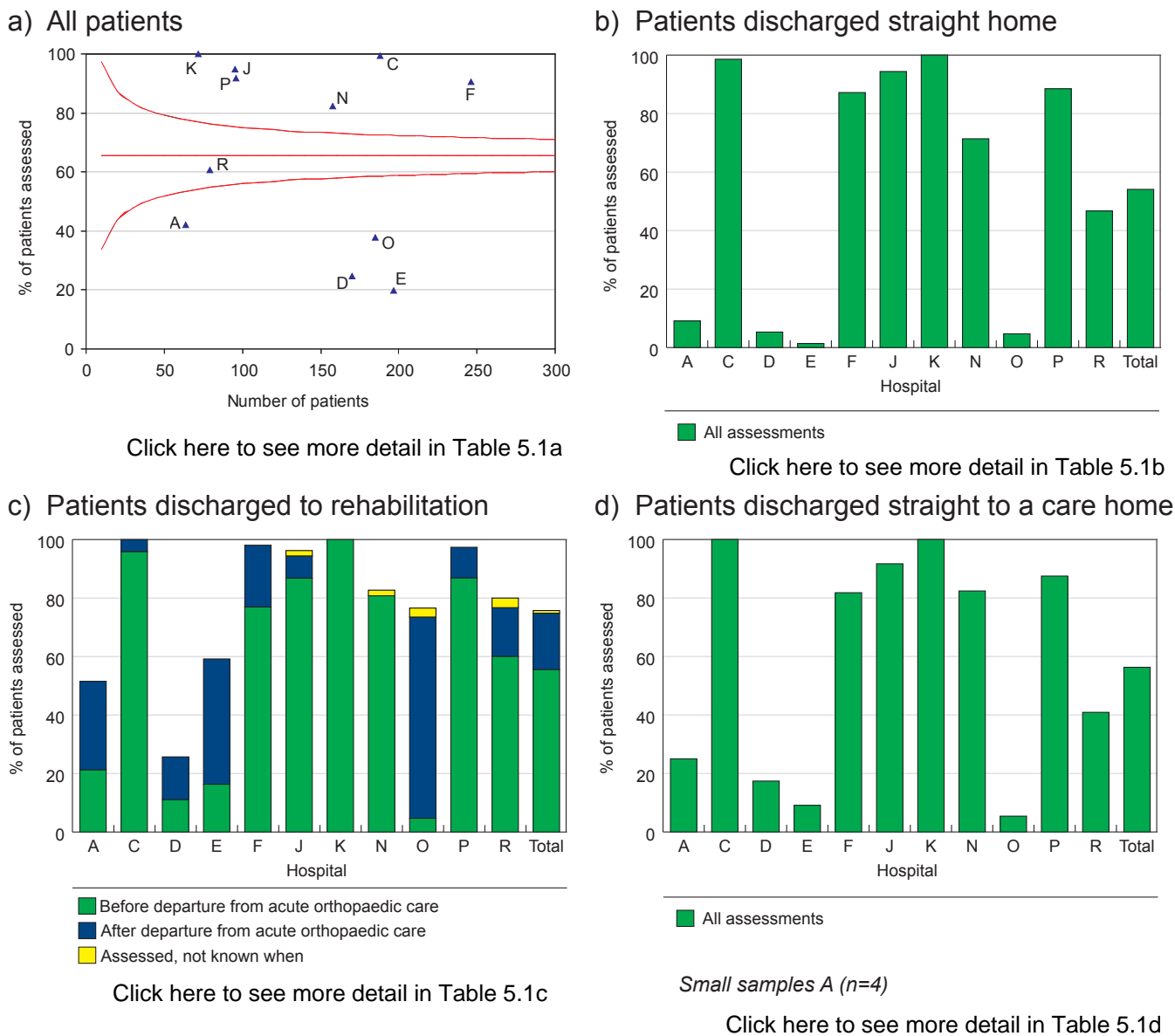


Small samples A (n=5)

[Click here to see more detail in Table 4.4](#)

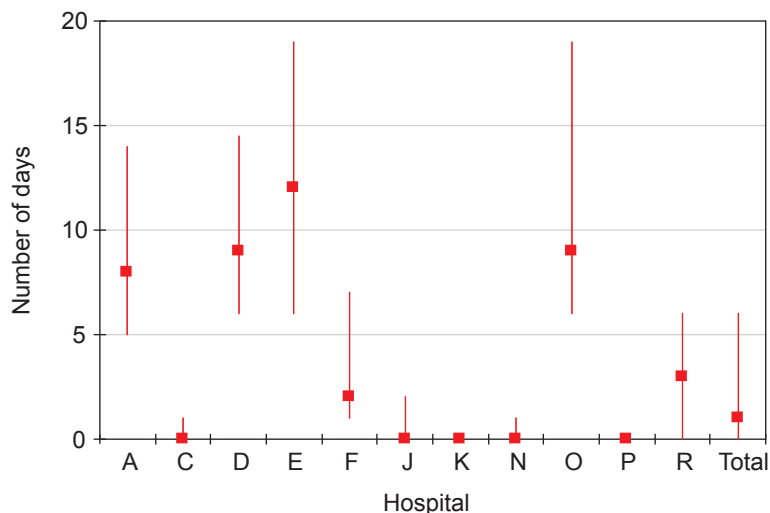
5. Nutritional Assessments

Fig. 5.1: Nutritional assessments by discharge destination from acute orthopaedic care



Seventy-six per cent of all patients who received rehabilitation services had a nutritional assessment (74% of these were conducted in orthopaedics, 26% conducted post orthopaedics). Approximately 55% of patients discharged directly from orthopaedics received a nutritional assessment regardless of whether their destination was a care home or their own home. Some centres reported high levels of nutritional assessment regardless of destination.

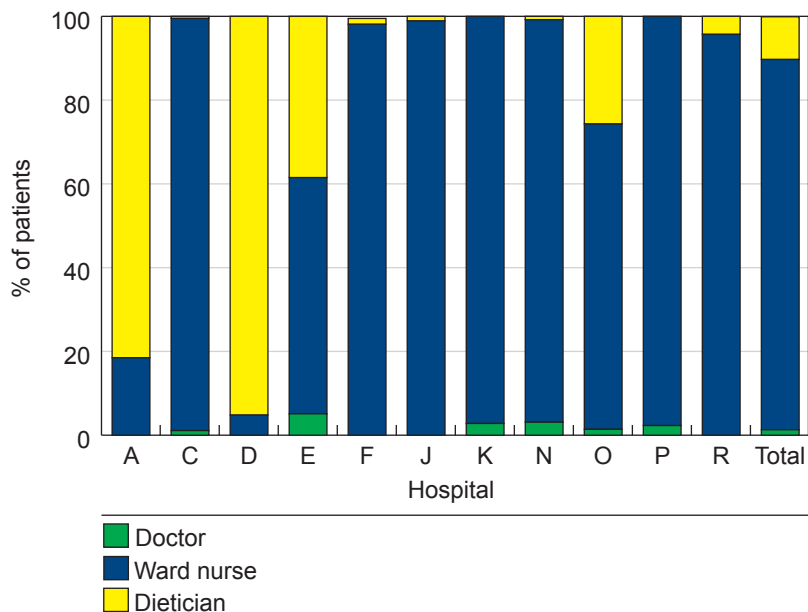
Fig. 5.2: Number of days from admission until nutritional assessment (all patients)



[Click here to see more detail in Table 5.2](#)

Points represent the median time to assessment at each hospital. Lines extend to indicate the number of days within which a quarter and three-quarters of patients were assessed.

Fig. 5.3: Grade of staff carrying out nutritional assessment



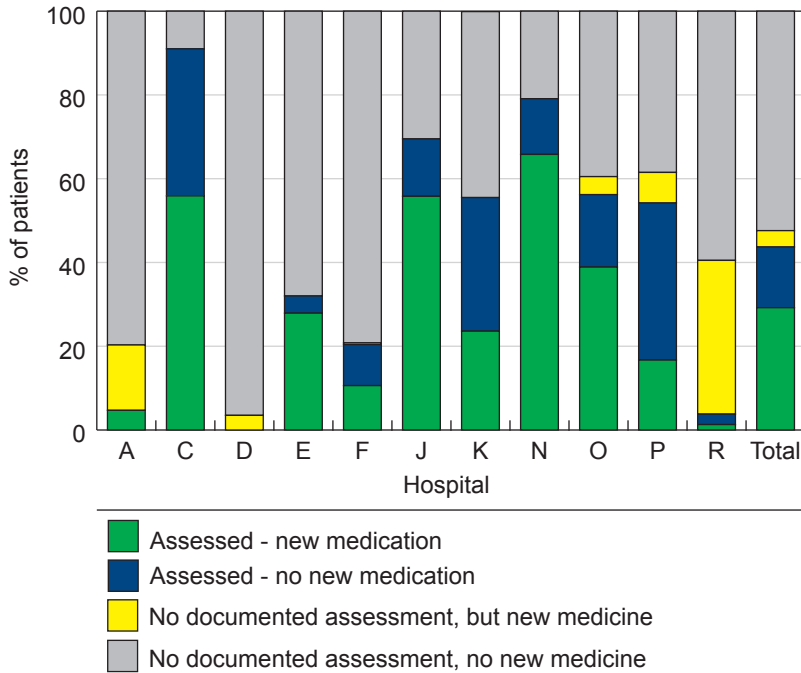
[Click here to see more detail in Table 5.3](#)

6. Osteoporosis Assessments

Fig. 6.1: Osteoporosis assessments

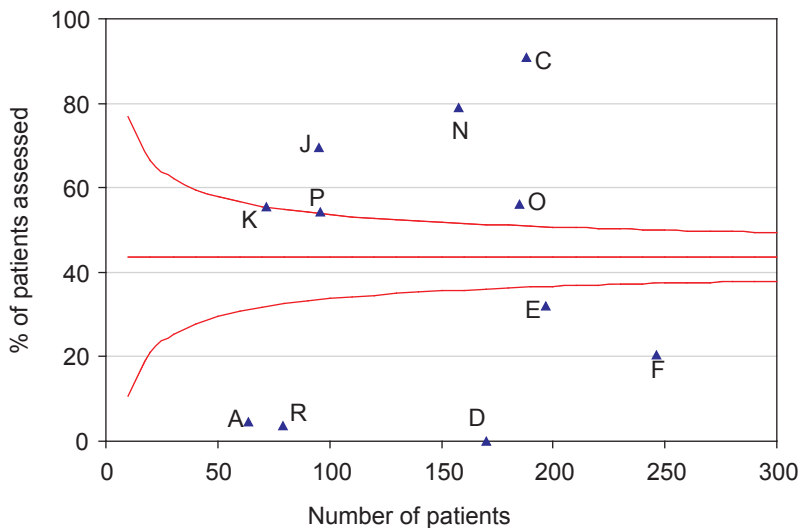
Documented osteoporosis assessment was recorded *separately* from any new inpatient prescription for osteoporosis drugs.

a) Assessments and new medication



[Click here to see more detail in Table 6.1a](#)

b) Documented assessments only



Forty-eight per cent of patients had some form of osteoporosis assessment as an inpatient. It is encouraging to note that in only 4% of patients was a new drug prescription the *only* evidence of an osteoporosis assessment.

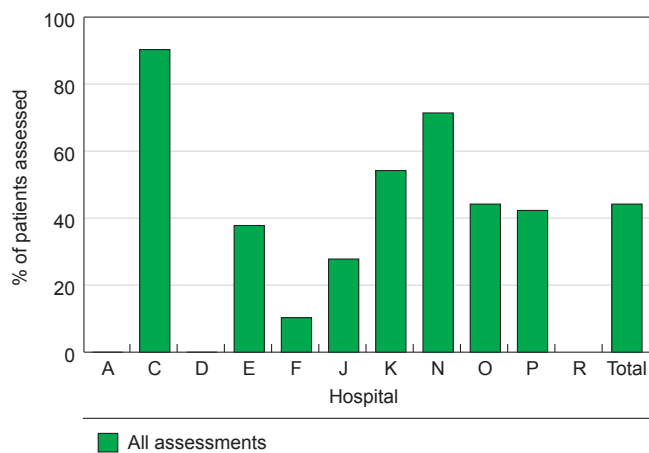
Only 142/811 (18%) of patients with no documented osteoporosis assessment and no new post-fracture bone health medication were on bone health medication prior to admission.

[Click here to see more detail in Table 6.1b](#)

Note that five of the 11 hospitals reported having a fracture liaison service. Patients were identified in various ways e.g. case-notes, referrals or IT downloads of all patients with fractures. Screening or treatment may be organised from these services but would not be identified here.

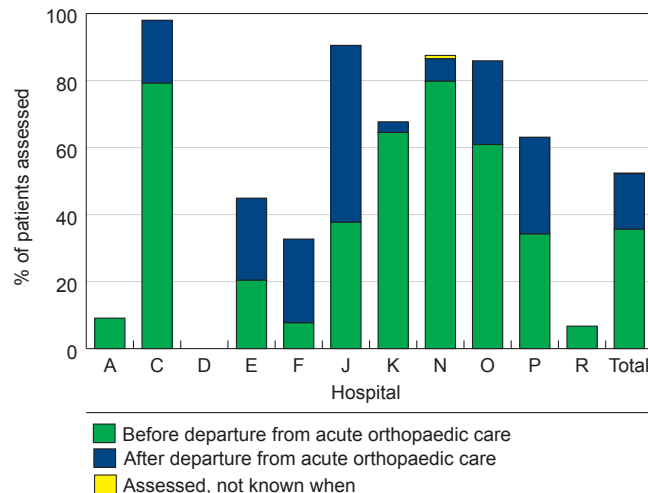
Fig. 6.2: Documented osteoporosis assessments by discharge destination from acute orthopaedic care

a) Patients discharged straight home



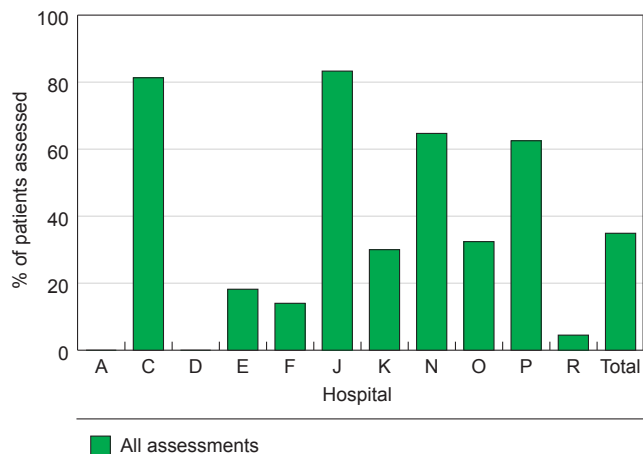
[Click here to see more detail in Table 6.2a](#)

b) Patients discharged to rehabilitation



[Click here to see more detail in Table 6.2b](#)

c) Patients discharged straight to a care home

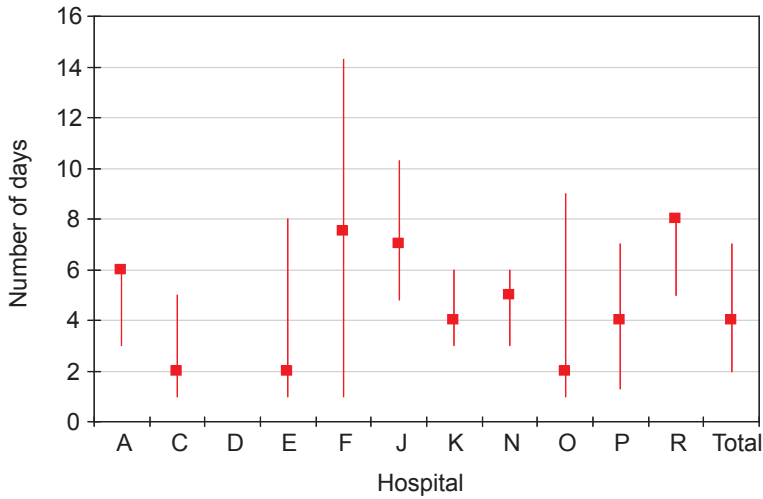


[Click here to see more detail in Table 6.2c](#)

Small samples A (n=4)

Although there is clearly still room for improvement, it is encouraging that so many patients are being assessed during acute orthopaedic care.

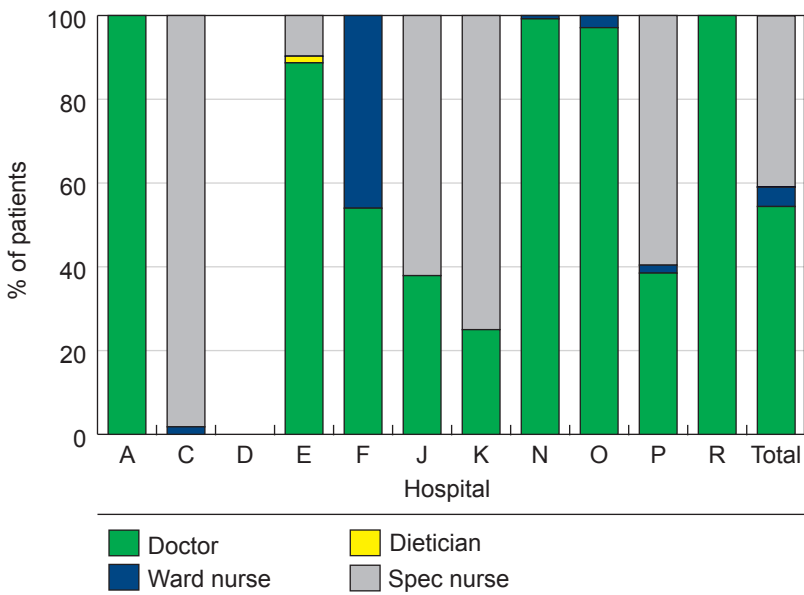
Fig. 6.3: Number of days from admission until osteoporosis assessment (all patients)



[Click here to see more detail in Table 6.3](#)

Small samples A (n=3), R (n=3); no documented osteoporosis assessments at D

Fig. 6.4: Grade of staff carrying out osteoporosis assessment



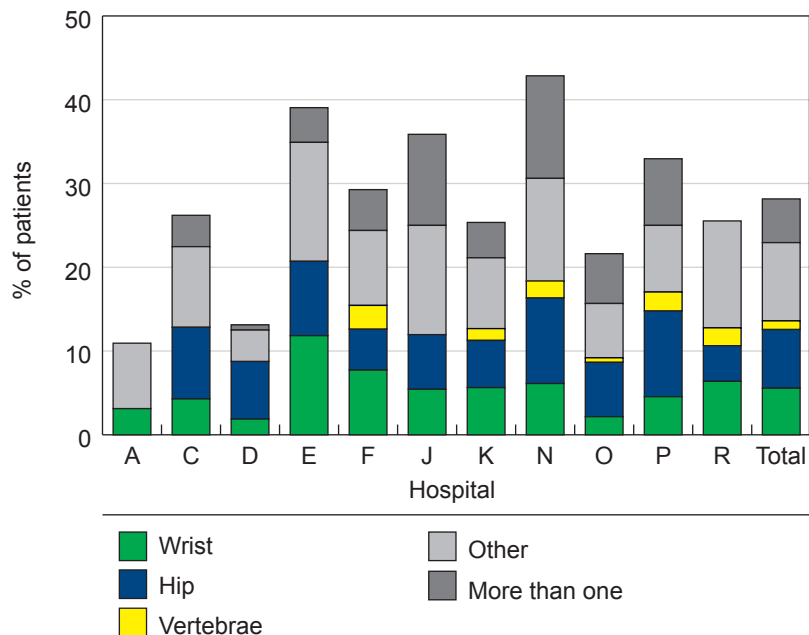
Small samples A (n=3), R (n=3); no documented osteoporosis assessments at D

[Click here to see more detail in Table 6.4](#)

7. Medication for Bone Health

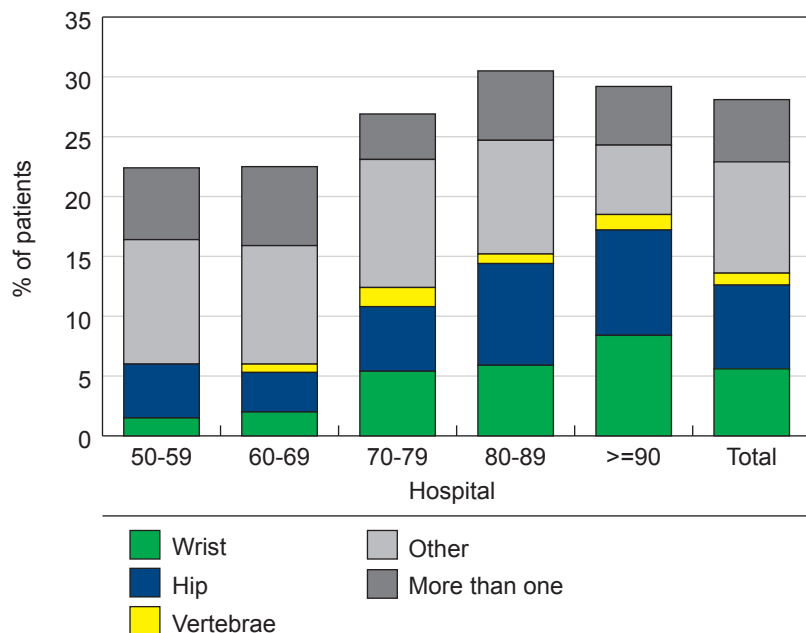
Fig. 7.1: Previous history of fragility fractures

a) By hospital



[Click here to see more detail in Table 7.1a](#)

b) By age group

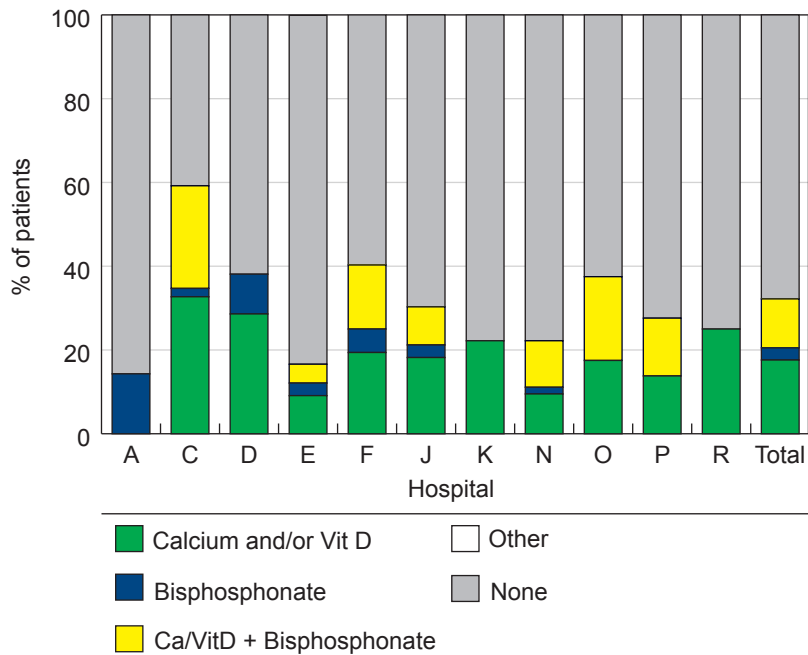


[Click here to see more detail in Table 7.1b](#)

Fragility fractures were classed as those sustained from a fall from patient's standing height. Fractures sustained from road traffic accidents or assaults were excluded. Information was collected from patients/carers or readily available from case-notes.

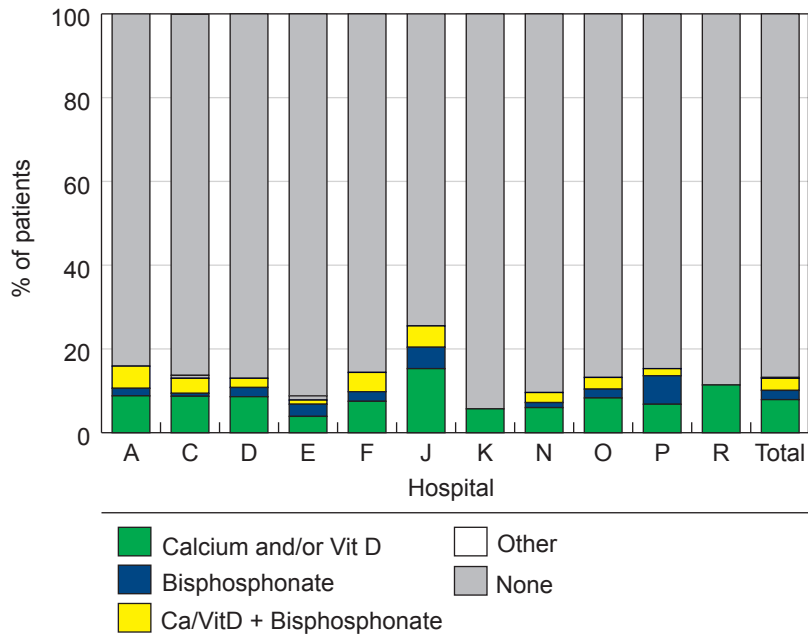
Fig. 7.2: Pre-fracture medications relating to bone health

a) Previous fragility fractures



[Click here to see more detail in Table 7.2a](#)

b) No previous fragility fractures

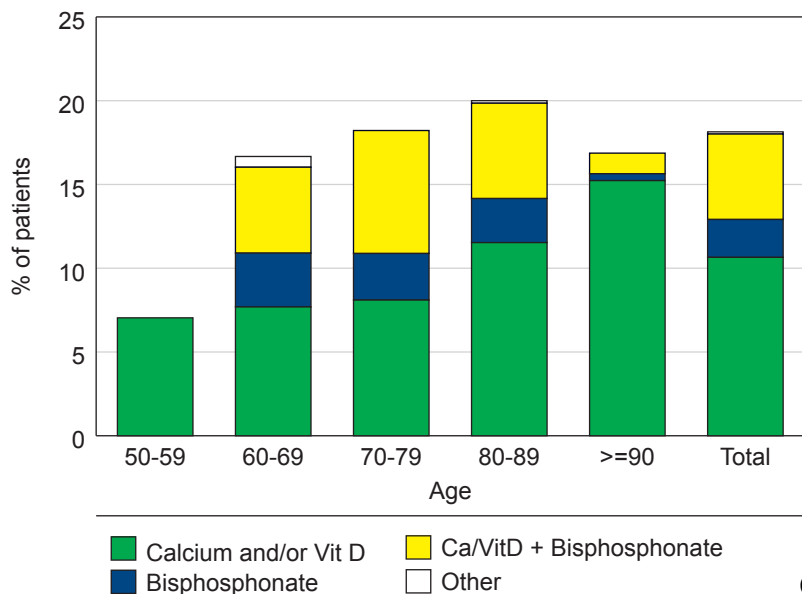


[Click here to see more detail in Table 7.2b](#)

'Other' includes other bone health medications (e.g. Strontium), usually in combination with Calcium, Vitamin D or Bisphosphonate.

Only 32% of patients who had reported a previous fragility fracture were on medication aimed at improving bone health prior to admission for their current hip fracture.

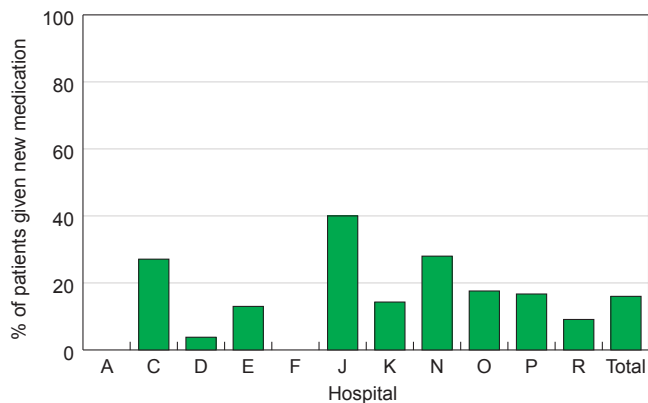
Fig. 7.3: Pre-fracture medications for bone health by age



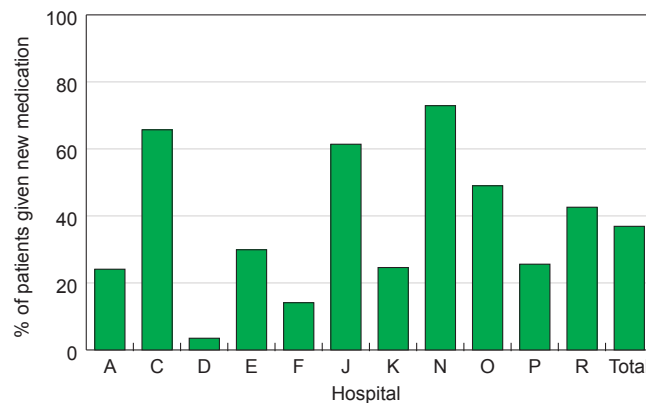
[Click here to see more detail in Table 7.3](#)

Fig. 7.4: New bone health medications

a) Already on medication



b) No previous medication



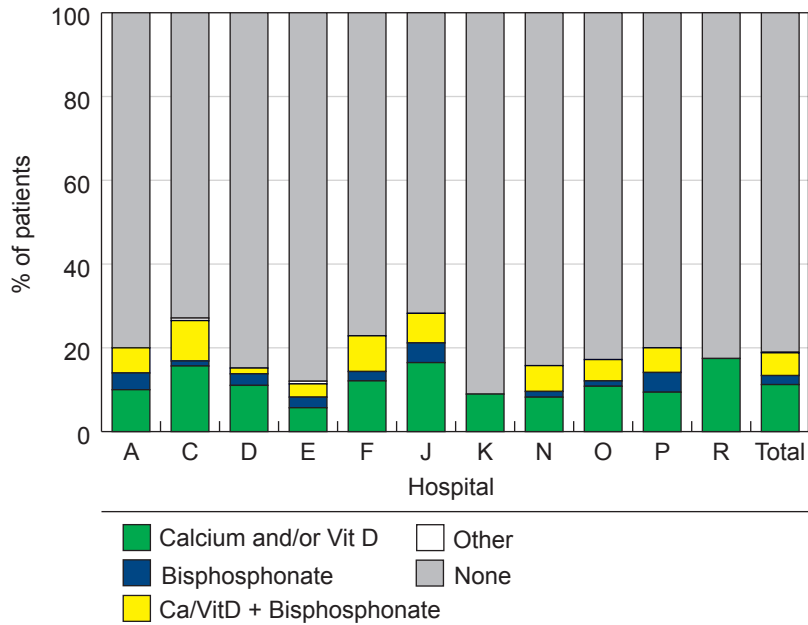
Small samples K (n=7)

[Click here to see more detail in Table 7.4a](#)

[Click here to see more detail in Table 7.4b](#)

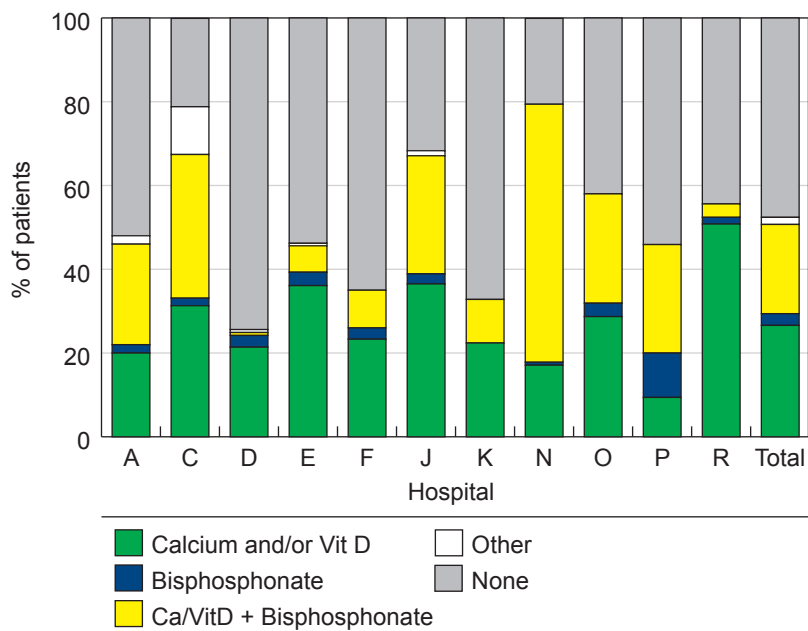
Fig. 7.5: Bone health medication pre-fracture versus six-weeks post-admission

a) Pre-fracture



[Click here to see more detail in Table 7.5a](#)

b) Six weeks post-admission



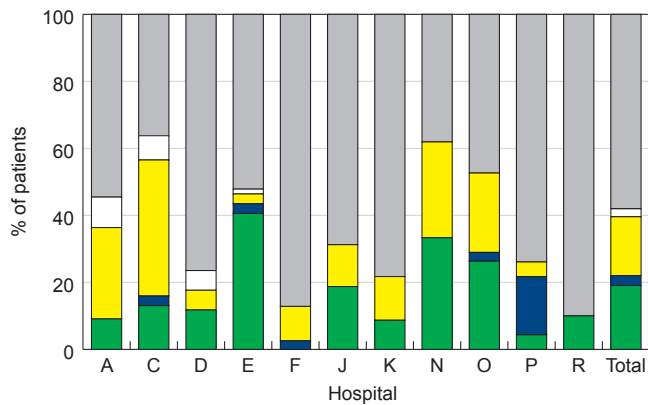
[Click here to see more detail in Table 7.5b](#)

It is encouraging that 52% of hip fracture patients were on some form of medication aimed at improving bone health by six weeks post-admission.

Note that some clinicians prefer not to prescribe bisphosphonates until at least six weeks after fracture. Patients may also be prescribed medication following DEXA scan results and follow up consultation with clinic/GP. Usually this process would take longer than six weeks.

Fig. 7.6: Bone health medication six-weeks post-admission by discharge destination from acute orthopaedic care

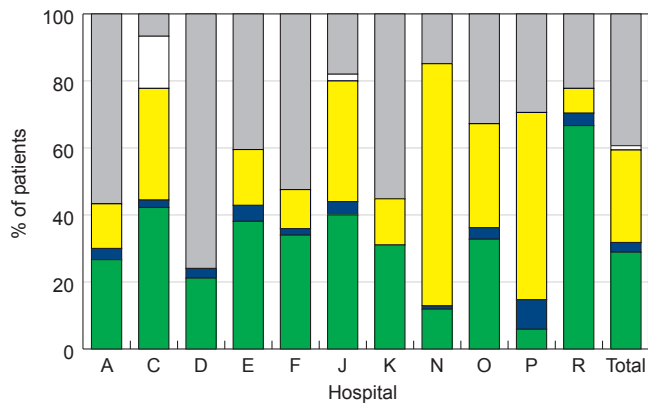
a) Patients discharged straight home



Only 42% of patients who went directly home from acute orthopaedic care reported that they were being prescribed bone health medication at six weeks post-admission, compared to 61% discharged to rehabilitation and 51% discharged straight to a care home.

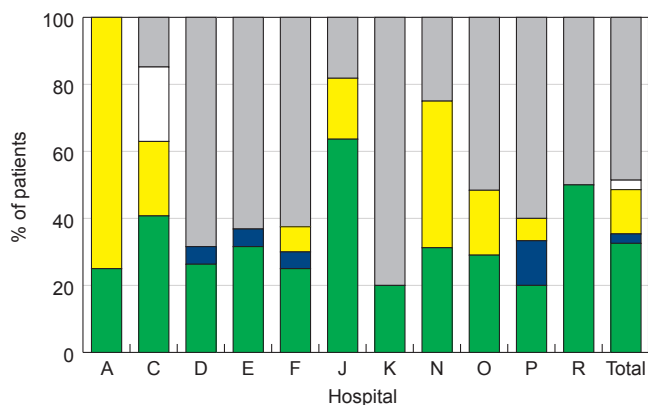
[Click here to see more detail in Table 7.6a](#)

b) Patients discharged to rehabilitation



[Click here to see more detail in Table 7.6b](#)

c) Patients discharged straight to a care home



■ Calcium and/or Vit D □ Other
■ Bisphosphonate ■ None
■ Ca/VitD + Bisphosphonate

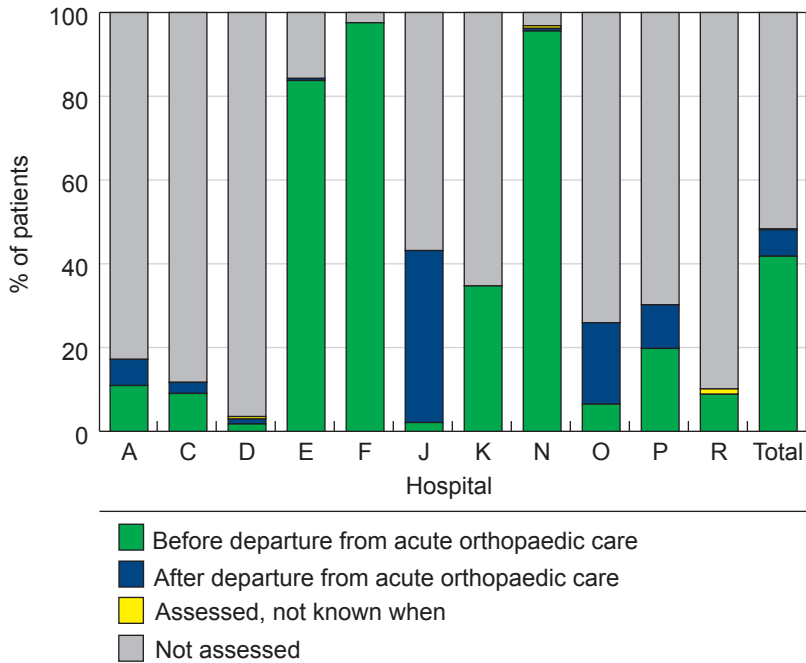
Small samples A (n=4)

[Click here to see more detail in Table 7.6c](#)

8. Cognition Assessments

Fig. 8.1: Frequency and timing of cognition assessments

a) All patients



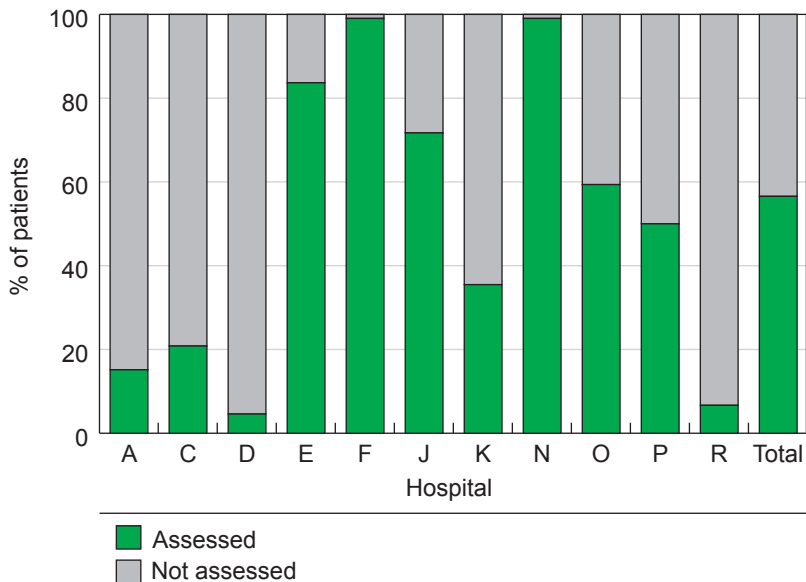
Documented use of two commonly used cognition measuring tools showed that 48% of all patients had cognition levels measured.

Although not the case in all centres, first measurements of cognition are usually conducted in the acute orthopaedic setting.

It is disappointing that only 57% of patients discharged to a rehabilitation setting had documented cognition assessments.

[Click here to see more detail in Table 8.1a](#)

b) Patients discharged straight to rehabilitation

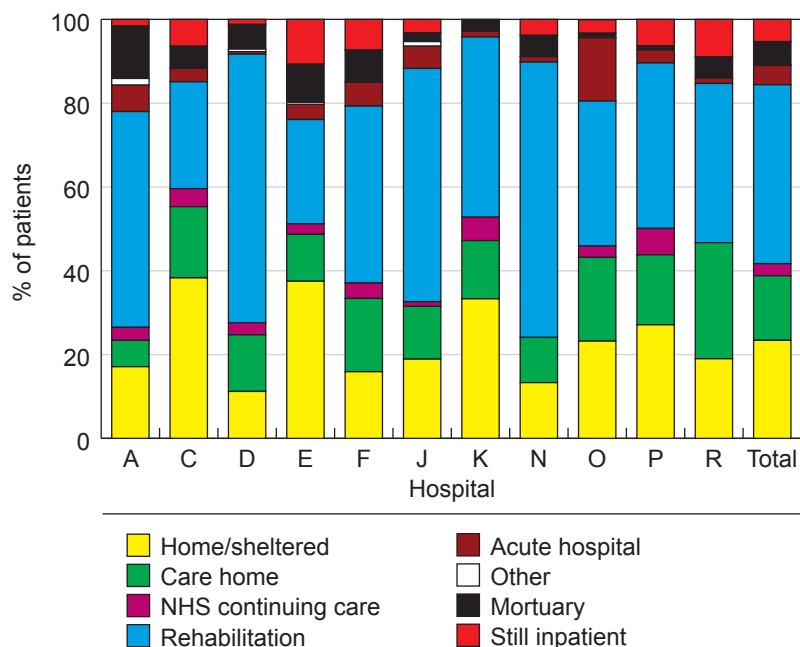


[Click here to see more detail in Table 8.1b](#)

9. Discharge Destinations and Length of Stay

Discharge data were collected at a maximum of six weeks after admission to acute orthopaedic care. At this point, patients who were still inpatients (either still under acute orthopaedic care or in another hospital setting) were reviewed and discharged from the audit as 'still inpatients'.

Fig. 9.1: Post-orthopaedic discharge destinations

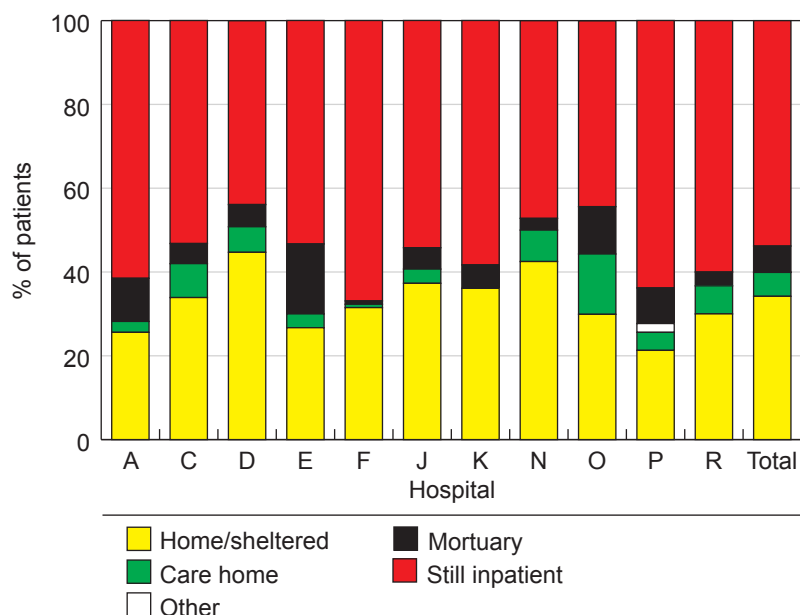


[Click here to see more detail in Table 9.1](#)

'Still inpatient' if still on acute orthopaedic ward 42 days post-admission

Five per cent of patients remained in an acute orthopaedic setting at six weeks post-fracture.

Fig. 9.2: Post-hospital discharge destination if initially discharged from acute orthopaedic care to another hospital setting



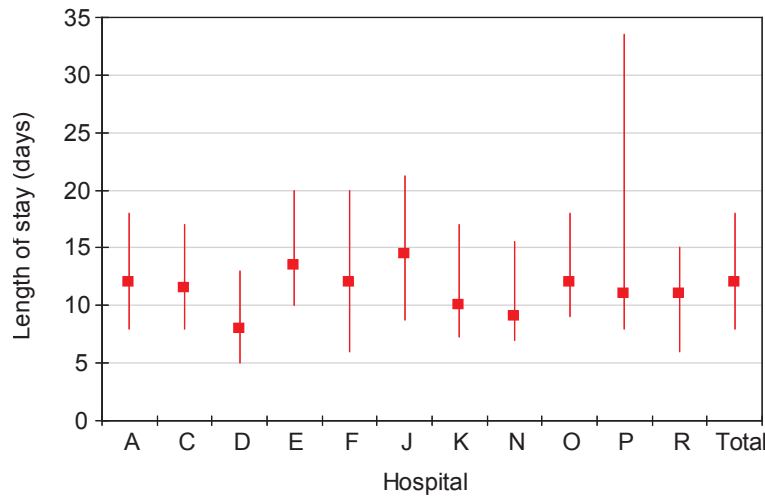
Of the patients discharged from acute orthopaedic care to another hospital setting, 54% were still inpatients at six weeks.

Other hospital settings are acute wards, rehabilitation wards or NHS continuing care; 'Still inpatient' if still in hospital 42 days post-admission.

[Click here to see more detail in Table 9.2](#)

Fig. 9.3: Median length of acute orthopaedic stay by discharge destination

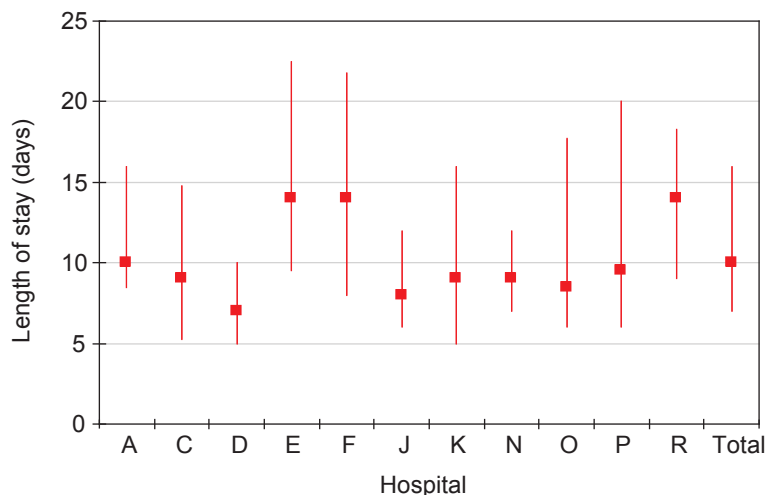
a) Discharged straight home



Differences in median length of acute stay have been demonstrated repeatedly by SHFA. They reflect both service structures and service pressures. The current trend across Scotland is to centralise services e.g. all operative services on one Trust site. This may affect where patients recuperate and so alter length of stay in the acute orthopaedic setting.

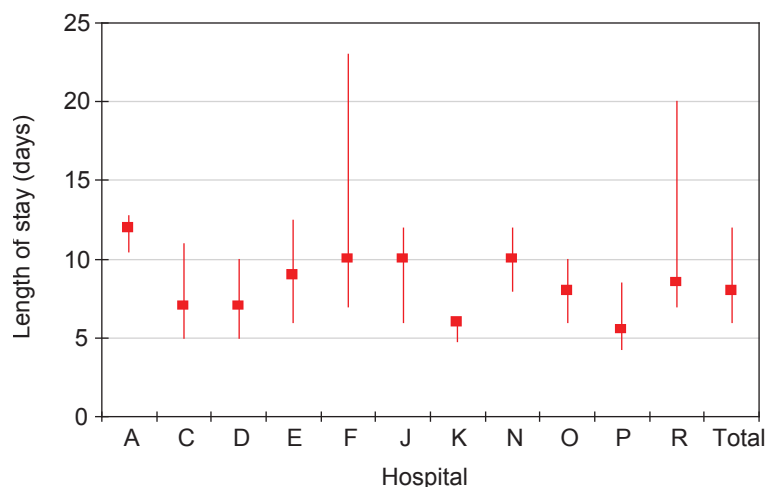
[Click here to see more detail in Table 9.3a](#)

b) Discharged to rehabilitation



[Click here to see more detail in Table 9.3b](#)

c) Discharged straight to a care home



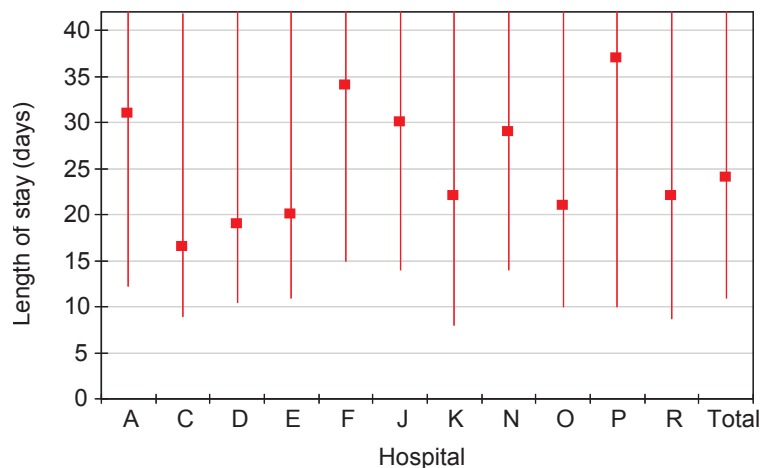
Points represent the median length of stay in each hospital. Lines extend to show the interquartile range (lower and upper values indicate the number of days within which a quarter and three-quarters of patients have been discharged).

Length of acute orthopaedic stay reported here will be slightly lower than in previous SHFA reports because the review period was six weeks (compared to four months previously). Therefore we did not record the eventual discharge destination of the small number of patients (Fig. 9.1) who were still acute orthopaedic inpatients at 42 days, so these could not be included

[Click here to see more detail in Table 9.3c](#)

Small samples A (n=4)

Fig. 9.4: Median length of total hospital stay



[Click here to see more detail in Table 9.4](#)

Includes total length of stay in acute orthopaedic care plus any subsequent rehabilitation, acute hospital or continuing NHS care stays directly afterwards (until patient left this setting).

Note that the maximum review period was 42 days (upper limit of graph) when at least a quarter of most hospitals' patients were still in hospital (see also Fig. 10.2, although the latter also includes patients who were re-admitted to a hospital setting).

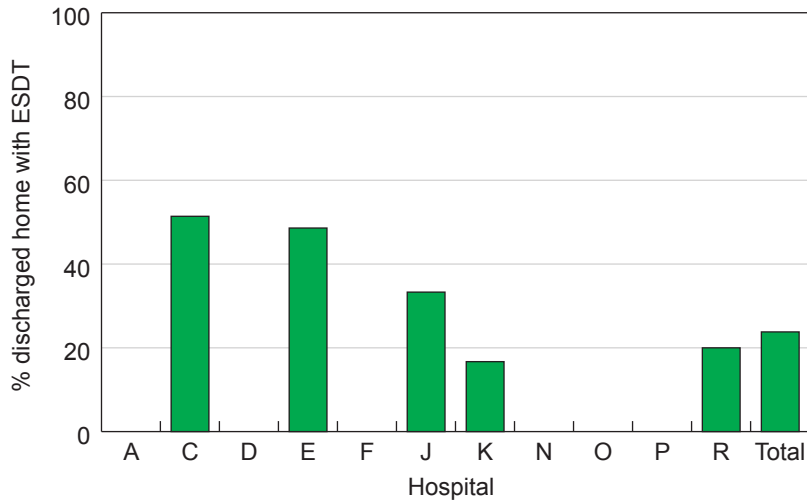
The median length of total hospital stay for patients originally admitted from their own homes was 27 days, compared to 10 days for patients admitted from a care home.

Fig. 9.5: Community Care Assessment requests

Documented hospital CCA requests varied in prevalence from 2% of patients who were discharged straight to care homes to 7% if the patient was discharged to rehabilitation, and 16% if the patient was still in hospital six weeks post-admission.

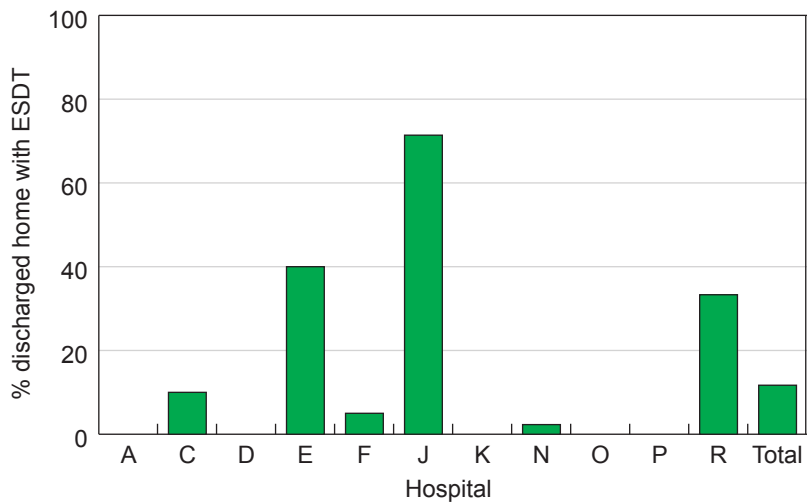
Fig. 9.6: Early Supported Discharge Teams

a) Straight home



[Click here to see more detail in Table 9.6](#)

b) Home via rehabilitation



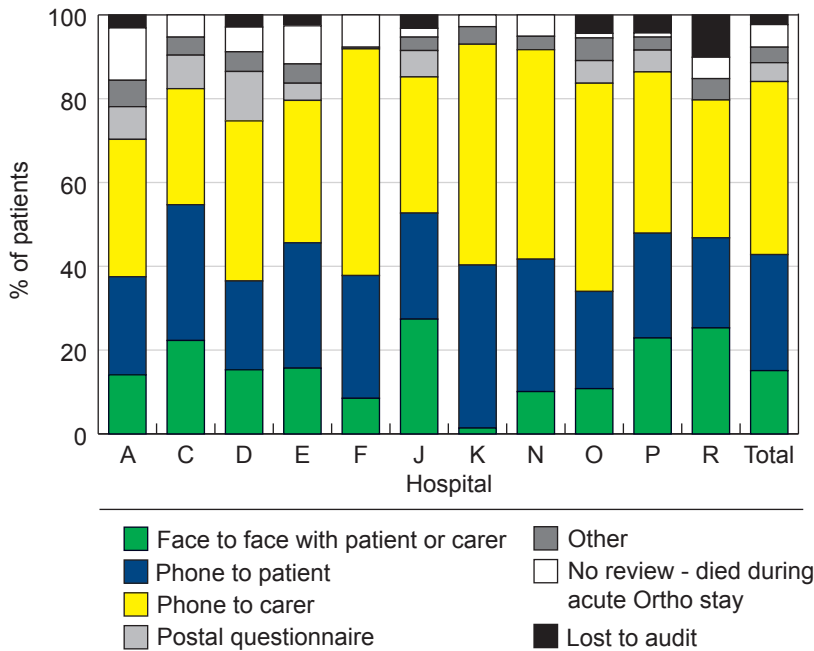
[Click here to see more detail in Table 9.6](#)

Small samples A (n=9), R (n=9)

Not all centres have ESDTs, but Fig 9.6 shows where services are available and illustrates variance in their use. In addition to any pre-discharge assessments, assessments may also be conducted by ESDTs after discharge.

10. Outcomes

Fig. 10.1: Type of 42-day assessment



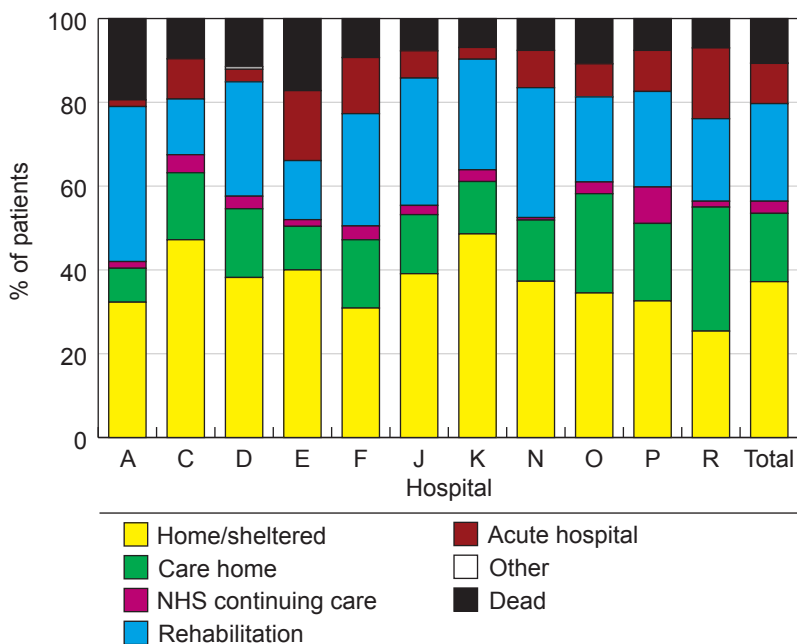
Review rates were high, averaging 98% (range 90-100% across individual hospitals). This reflects the determined efforts of the local audit co-ordinators to contact all patients.

Majority of 'Other' assessments were from patient records of patients who died.

[Click here to see more detail in Table 10.1](#)

Patients (or their carers) who could not be contacted for six week review (Lost to Audit) are omitted from the remaining figures in this Outcomes section.

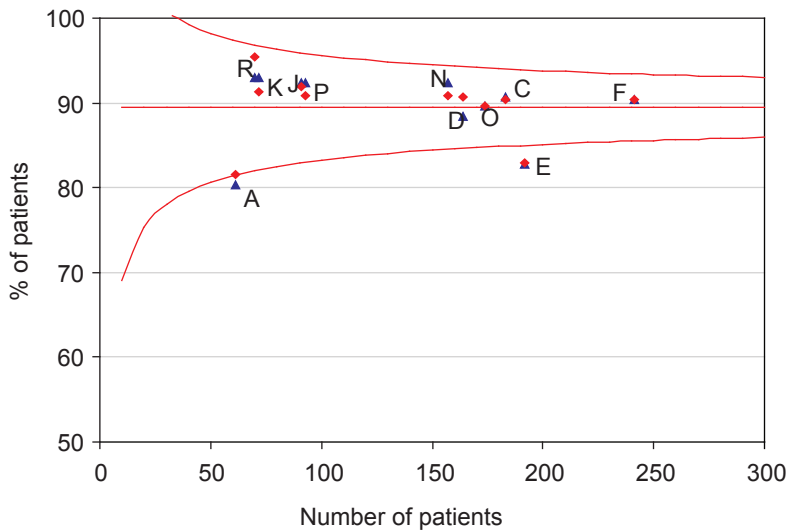
Fig. 10.2: Place of residence at 42 days post-admission



36% of *all* patients remained within a hospital setting (or had returned to a hospital setting) six weeks following admission with a hip fracture.

[Click here to see more detail in Table 10.2](#)

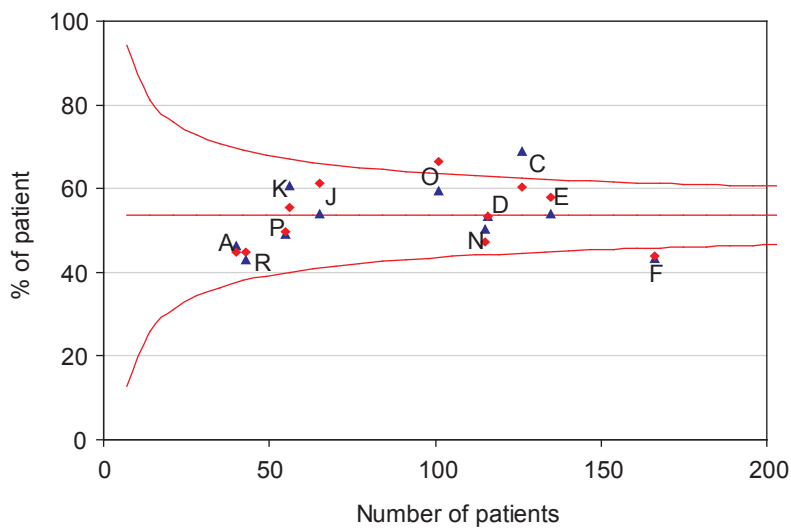
Fig. 10.3: Survival to 42 days post-admission



[Click here to see more detail in Table 10.3](#)

Blue triangle=actual (unadjusted) percentage, Red diamond=casemix-adjusted percentage (see Data Collection and Presentation Methods section).

Fig. 10.4: Percentage of patients admitted from home who had returned home by 42 days post-admission

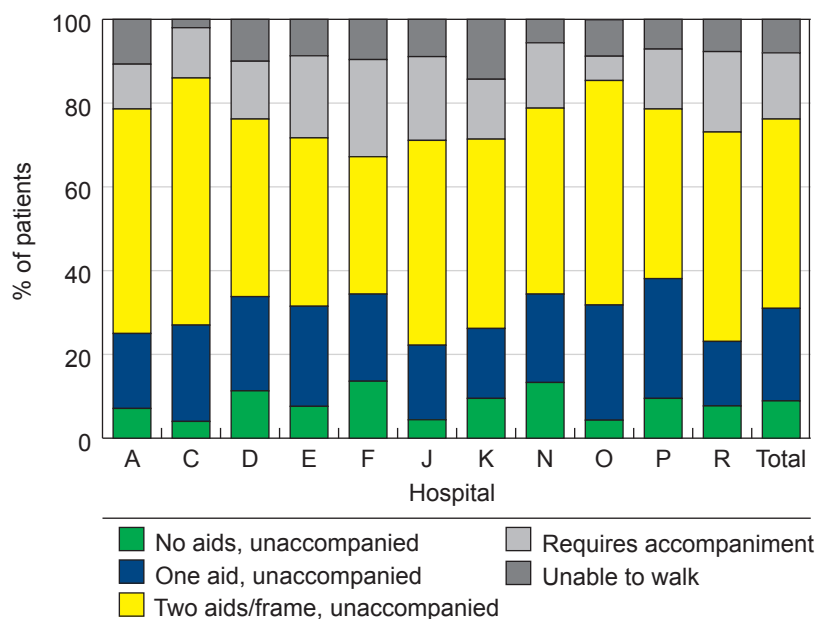


[Click here to see more detail in Table 10.4](#)

Home includes sheltered housing. Blue triangle=actual (unadjusted) percentage, Red diamond=casemix-adjusted percentage.

Fifty-four per cent of patients admitted from home had returned home within 42 days of admission. The aim of good hip fracture care is to return as high a proportion of patients as possible to their pre-fracture residence and function.

Fig. 10.5: 42 days post-admission indoor mobility of patients admitted from home who walked unaccompanied with no aids or one stick prior to admission



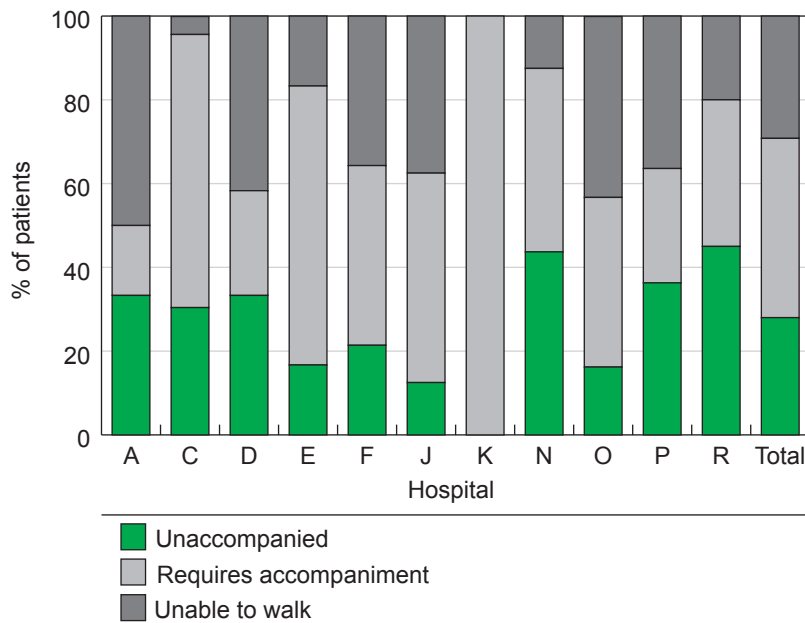
[Click here to see more detail in Table 10.5](#)

Excludes patients who died or were lost to audit.

Loss or partial loss of mobility is a common and serious complication of hip fracture, particularly for the frail elderly at home. By 42 days less than a third of patients from home who were able to walk indoors unaccompanied and unaided or with one stick had returned to this level of activity. Eight per cent of these previously mobile patients were unable to walk at all at six weeks, while 16% required accompaniment.

By comparison, patients from a care home with comparable pre-fracture mobility (i.e. no aids or one stick, unaccompanied) were less likely to be able to walk at 42 days (29% of patients unable to walk), and more likely to require accompaniment if they did walk (43% of patients).

Fig. 10.6: 42 days post-admission indoor accompaniment of care home patients who walked unaccompanied (regardless of aids) prior to admission

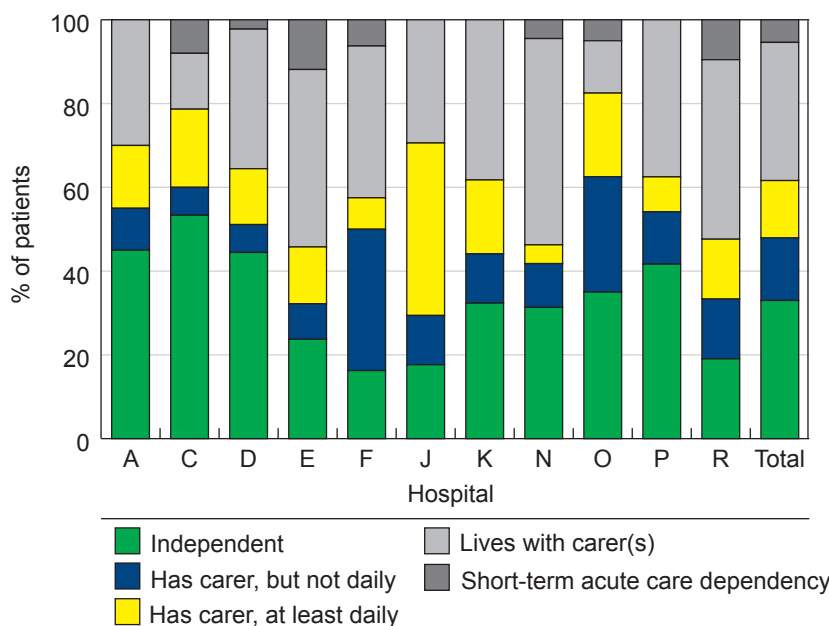


Of all the care home patients who were mobile without being accompanied pre-fracture, 72% were unable to walk or could only walk when accompanied at 42 days. Although patients' mobility may still improve beyond 42 days, the increased need to be accompanied will have an obvious impact on the patients' quality of life and on staffing resources within the care homes.

[Click here to see more detail in Table 10.6](#)

Small samples A (n=6), E (n=6), J (n=8), K (n=1)-admission

Fig. 10.7: Percentage of patients who lived independently again at 42 days post-admission



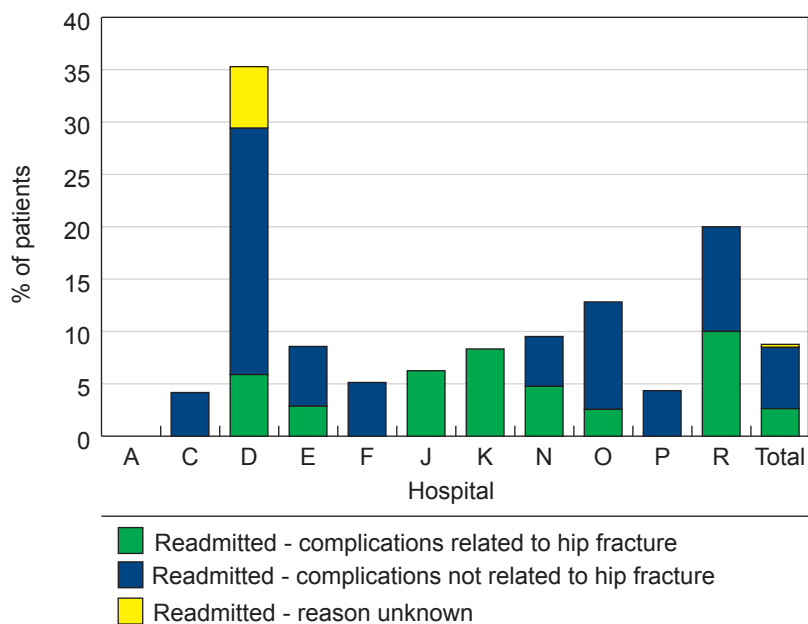
Patients who did not live independently (i.e. without support from carers) prior to fracture are excluded from analysis.

[Click here to see more detail in Table 10.7](#)

These graphs reflect the potentially devastating nature of hip fracture. By 42 days only 33% of patients who lived independently (without carers) prior to fracture had returned to living independently. Although increased dependency may be relatively short term, again this shows the potential impact on resources within hospital settings as well as on community services and unpaid carers.

Although these patients lived independently pre-fracture, multidisciplinary assessment of this patient group prior to the current hip fracture may have revealed unmet needs for support and recommended input of care.

Fig. 10.8: Percentage of patients who were discharged straight home then re-admitted to acute hospital within 42 days of admission, and reason for re-admission

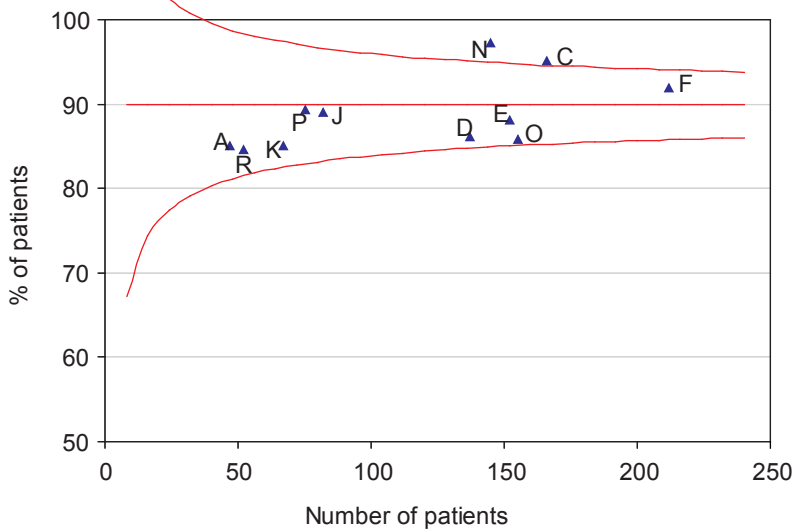


[Click here to see more detail in Table 10.8](#)

Note that there will be a degree of subjectivity in whether or not a re-admission is hip-fracture related.

It is of concern that 9% of patients discharged home directly from orthopaedics are readmitted within such a short period. Although the majority of readmissions are not directly related to the hip fracture it may suggest a missed opportunity to optimise patients’ health, functional ability and level of community support.

Fig. 10.9: Percentage of patients who were pain-free or experiencing only slight hip pain at 42 days post-admission



[Click here to see more detail in Table 10.9](#)

Excludes patients who died, were lost to follow-up or were unable to answer. Data not casemix-adjusted due to subjectivity of pain scoring.

The audit's telephone review can act as a point of assessment particularly if there is an absence of routine outpatient follow-up. Assessing pain levels is challenging. Although SHFA's six-point pain score is subjective, this data can provide a valuable starting point in evaluating both patients' and carers' perception of recovery levels.

It may be surprising that the percentage of patients reporting only slight pain or being pain free at 42 days is similar to the percentage recorded at 120 day review in previous years (SHFA 2006). This may be because pain levels plateau by 42 days, or patients may have different perceptions of what is slight/no pain at different stages of their recovery.

